



**HIGHER EDUCATION REFORM
IN GEORGIA: CHALLENGES
AND OPPORTUNITIES**

ISET

Policy Report

Higher Education Reform in Georgia: Challenges and Opportunities

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Date of completion: 21st June 2018

Date of release to the public: 27th March 2019

Acknowledgments and disclaimer. This report was produced thanks to the financial support of the World Bank. The author thanks Mariam Chachava for excellent research assistance, the reviewers of the report and the participants to the workshop in which the draft version of the report was presented for valuable comments and suggestions. Any remaining errors and/or omissions are the sole responsibility of the author. Any opinions expressed in this report are those of the author and not those of ISET, ISET-PI or the World Bank.

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Table of Contents

1. Introduction.....	5
2. Past reforms of the HES in Georgia	5
2.1 The World Bank assessment of the Georgian HES in 2014.....	5
2.2 Reforms of the Georgian HES: 2014-2018	7
3. Recent trends characterizing the Higher Education System in Georgia.....	9
3.1 Institutions, students and lecturers	9
3.2 Government grants and university funding	12
3.3 Openness of Georgian HEI	13
4. Key system-wide issues	15
4.1 Quality and quality assurance	15
4.1.1 Quality of inputs: students	15
4.1.2 Quality of inputs: lecturers and curricula	17
4.1.3 Quality of inputs: other inputs	18
4.1.4 Quality of outputs: heterogeneous quality of education.....	18
4.1.5 Quality of outputs: performance of higher education graduates in the labor market	20
4.1.6 Quality Assurance	25
4.2 Funding.....	26
4.2.1 Funding and student incentives	26
4.2.2 Funding and incentives for universities	27
4.3 Research and innovation	27
4.3.1 Quality of research.....	27
4.4 Governance	29
4.4.1 Governance structure - Education.....	29
4.4.2 Governance structure - Research	30
4.4.3 Support to good governance	31
4.5 Internationalization	31
4.6 Access and social inclusion	32
5. Recommendations	34
5.1 Quality and quality assurance	35
5.1.1 Quality of inputs: students	35
5.1.2 Quality of inputs: lecturers and curricula	36
5.1.3 Quality assurance and the importance of access to information	36
5.2 Funding.....	37
5.2.1 Modifying the existing structure of incentives for students and universities.....	38
5.3 Research and innovation	39
5.4 Governance	40
5.5 Continued efforts towards greater internationalization	40
5.6 Design and implement policies for access and social inclusion	41
5.7 An interesting concept: the knowledge triangle.....	41
6. Suggestive implementation timeline	43
References	45
Appendix	46

List of Figures

Figure 1. Number of students in private and public universities	9
Figure 2. Gross enrollment rate in tertiary education, 2015	10
Figure 3. Number of lecturers in private universities	10
Figure 4. Number of lecturers in public universities	11
Figure 5. Number of graduates of vocational and technical schools, BA and higher level of tertiary education (2011-2016)	12
Figure 6. Number of foreign students among the higher education students (MA; BA; PH.D)	13
Figure 7. Percentage of foreign students among the higher education students (MA; BA; PHD)	14
Figure 8. Number of foreign students by university type.....	14
Figure 9. Number of Foreign Students in Institutions by type of degree	15
Figure 10. Governance structure – Education	29
Figure 11. Governance structure – Research	30

List of Tables

Table 1. Evolution of the ratio student/lecturers over the period 2011-2016.....	11
Table 2. State Study Grants (including social program grants), BA and Masters	12
Table 3. Priority programs	13
Table 4. TIMSS scores, grade 4: 2011-2015	16
Table 5. Grade 8: 2011-2015	16
Table 6. PIRLS scores – grade 4 – year 2016.....	16
Table 7. PISA scores – grade 4 – year 2016	16
Table 8. Average change in ranking of MA applicants with respect to their rank in the BA admission exam (by university)	19
Table 9. Determinants of rank/score in the MA admission test.....	19
Table 10. Aggregate levels of education by labor market status, age group 25-34 (%), 2016.....	20
Table 11. Aggregate levels of education by labor market status, age group 35-49 (%), 2016.....	21
Table 12. Mincer regression results for individuals aged 15-49, by gender. Year 2016	22
Table 13. Evolution of GDP per capita and labor market statistics (2006-2016)	22
Table 14. Changes in the occupational and sectoral structure of employment in Georgia, 2011-2016 (females, age 15-49)	23
Table 15. Changes in the occupational and sectoral structure of employment in Georgia, 2011-2016 (males, age 15-49)	24
Table 16. Ranking of Georgian universities: various indicators.....	28
Table 17. Aggregate levels of education by sex, different age groups 25-34 and 35-49 (%), 2016	32
Table 18. Aggregate levels of education by settlement type, 25-34 and 35-49 (%), 2016.....	33
Table 19. Aggregate levels of education by ethnicity, 25-34 and 35-49 (%), 2016.	33

List of Acronyms

BA	Bachelor of Arts (degree)	HES	Higher Education System
CAT	Computer Adaptive testing	ICT	Information and communication technologies
CEE	Central and Easter Europe	HIS	Integrated Household Survey
CIR	Council of Innovation and Research	ISCED-11	International Standard Classification of Education 2011
CR	Council of Rectors	ISCO	International Standard Classification of Occupations
EHEA	European Higher Education Area	LLL	Live-Long learning
ENQA	Association for Quality Assurance in Higher Education	MA	Master of Arts (degree)
EQE	National Center for Educational Quality Enhancement	MES	Ministry of Education and Science
ERA	European Research Area	NAEC	National Assessment and Examination Center
ESG	European Higher Education Area	PH.D.	Doctor of Philosophy
EU	European Union	SEU	National University of Georgia
FSU	Former Soviet Union	SRNSF	Shota Rustaveli National Science Foundation
GDP	Gross Domestic Product	UNICEF	United Nations International Children’s Emergency Fund
Geostat	National Statistic Office of Georgia	USES	Unified Strategy for Education and Science
GES	General Education System	VET	Vocational Education and Trainings
GoG	Government of Georgia	WDI	World Development Indicators
GITA	Georgian innovation and Technology Agency	WFME	World Federation of Medical Education
HE	Higher Education		
HEI	Higher Education Institutions		

1. Introduction

The Government of Georgia (GoG) is determined to foster the internationalization of the Georgian higher education system and to ensure that all Georgian citizens have access to high quality higher education, to support their individual and professional development and to improve their access to better employment opportunities. These ambitious goals have been enshrined in three strategic objectives included in the “Unified Strategy for Education and Science for 2017-2021” (USES):

Strategic objective 1. Further modernization of higher education system, promotion of internationalization and improvement of quality;

Strategic objective 2. Create effective opportunities of lifetime learning;

Strategic objective 3. Increase access to quality education.

The purpose of this policy paper is to i) identify the existing challenges to the achievement of the Government strategic objectives 1 and 3, in close dialogue with a broad set of stakeholders; ii) provide a set of recommendations based on the analysis of the nature of the challenges and on the international best practices to address them.

During the preparation of this report we benefited from the constructive interaction with numerous stakeholders from several different groups (representatives of Higher Education Institutions – HEIs -, representative public institutions operating in Higher Education – HE - and other organizations). When stakeholders were too dispersed for extensive face-to-face interactions, we also collected information through online surveys. A full list of the stakeholder groups interviewed is available in table B1 in the Appendix.

The paper will develop as follows: in the next section we provide a quick summary of the strategic issues faced by the Georgian government as it embarked in the reform of its Higher Education System (HES), as they were summarized in the World Bank report (World Bank, 2014) drafted to support the Georgian government in its efforts. We will then discuss briefly the changes occurred in the period 2014-2018, to show how far the reform process has come. In section three, we will review the trends characterizing the Higher Education System in Georgia. In section four we discuss the key system wide issues characterizing the HES. In section five we suggest a set of recommendations to tackle the identified challenges. Finally, in the last section we will illustrate a tentative timeline for the implementation of our recommendations.

2. Past reforms of the HES in Georgia

2.1 The World Bank assessment of the Georgian HES in 2014

The World Bank 2014 report (World Bank, 2014) acknowledged the significant progress done by Georgia in reforming its education system. However, it also highlighted a substantial need for further reform in several areas. We will summarize the main challenges identified and the recommended priority interventions, focusing on those referring to the Georgian HES.

The World Bank report identified several key issues relevant for the HES:

- **Learning and labor market outcomes:** need to improve significantly the achievement level of Georgian students in key domains such as reading comprehension, mathematics and science, and to improve the relevance and quality of the education received by students.
- **Access and equity:** heterogeneous quality within the education system and inequality in access. In particular, individuals with lower economic backgrounds, living in rural areas and from ethnic minority groups were systematically excluded from the education system and the problem was exacerbated by the lack of consolidated social inclusion policy. In particular, the report underlined how most students from underrepresented groups did not continue into higher education. Among the possible causes, the World

Bank report suggested insufficient preparation and inability to obtain tutoring to compete with their peers for the selection process.

- **Governance:** accountability mechanisms at all levels of education were concentrated on controlling for inputs and regulatory norms rather than on monitoring outcomes, limiting the capacity of the Ministry of Education and Science (MES) to improve the quality of education.
- **Strategic management of the Ministry of Education and Science:** implementation issues (limited understanding of potential consequences of the reform, limited planning and consultation, limited implementation and managerial capacity) were identified as one of the main causes for the limited success of the reforms introduced.
- **Public spending in education:** expenditure in education was significantly lower than that of countries with similar level of income per capita. The combination of limited funding and lack of efficiency in the management of the funds was identified as another factor limiting progress in the Georgian education system.
- **Information and communication technologies (ICT):** lack of a coherent policy framework to support the use of ICT to advance teaching and learning.
- **Improving teaching quality in General Education:** the existing structure of incentives and the poor management of the supply and demand of teachers were identified as the main causes of the poor performance of General Education.
- **Higher education financing:** the World Bank report emphasized that the existing level of financing and financial instruments were not conducive to an improvement of quality of teaching and learning, nor were they supportive of greater research capacity, with very limited opportunities for competitive research grants. The report suggested that the financing system of universities, based on tuition fees, was creating perverse incentives for universities, negatively affecting the quality of teaching and failing to support research and the integration of research into the teaching and learning process.

In response to these issues, the World Bank report recommended several steps (we highlight here the most relevant for HE):

- **Improving the quality and relevance of education**
 - by focusing on the acquisition of key competencies in general education through curricular improvements, and a greater effort to strengthen the curriculum implementation process at the school level.
 - by shifting to a demand-led approach in which employers' feedback can contribute to the development of curricula and relevance of programs.
- **Expanding access and equity**
 - Developing a social inclusion policy for improving access and equity (standards, targets, measures and tools) across all educational areas, with the MES in charge of its monitoring and evaluation.
 - Eliminating dead-ends characterizing vocational training (VET) programs, making it possible for VET graduates to compete for university admissions².
 - Improve the student grant allocation system in HE to accommodate the needs of underrepresented groups, with an expansion of needs-based grants and an introduction of flexible study programs.
- **Changing governance**
 - Introducing result-based accountability mechanisms at the HE level, with performance indicators agreed upon among key stakeholders, tracked by individual institutions and verified by an independent agency.
- **Strategic management of the MES**
 - Develop the Ministry's policy and planning capacity, including data collection, management and analysis. This was deemed necessary to allow the MES develop a long-term evidence-based sector

² This would require adding general content to VET courses and improve VET graduates' chances in case they need to look for a job different from the one they studied for.

- strategy and to support its implementation, monitoring, evaluation, as well as the communication of its achievements.
- Define clearly responsibilities, lines of accountability, communication, monitoring and evaluation systems.
- **Public spending in Education**
 - Prioritizing the increase of public investments in education, bringing total expenditure in line with countries with comparative level of development.
- **Information and Communication Technologies**
 - Develop a coherent policy framework to ensure the meaningful use of ICT to advance teaching and learning throughout the education system and to support the resolution of many of the issues identified.
- **Improving teaching quality in General Education**
 - Developing a sustainable and school-based professional development model.
 - Developing a new cadre of university teachers to strengthen the pre-service teacher training system.
 - Provide more competitive compensation for the teaching profession.
 - Developing a comprehensive teacher evaluation system, providing clear opportunities for professional growth and career advancement.
 - Improve the management of teacher supply and demand and teacher deployment nationwide, to avoid shortages of teachers by teaching subject and by geographic location.
- **Modifying the Higher Education Financing**
 - Tripling the level of financing to the HES (up to 1% of Gross Domestic Product (GDP)).
 - Diversifying funding instruments, stimulating institutional performance improvements and supporting the development of HEIs, aligned with the reform objectives. In this context the World Bank documents suggested to develop an output-based formula, performance contracts and/or competitive grants.

2.2 Reforms of the Georgian HES: 2014-2018

Since 2014 the Georgian government has been actively working to reform its education system. In particular, as far as HES is concerned:

- **Improving the quality and relevance of education**
 - At the General Education level, considering Georgia's average scores in both PISA and TIMMS, the most recent results (2015) demonstrate considerable progress over time, even though Georgia remains far behind most countries that chose to participate in these tests. Georgia has been relatively more successful in addressing the equity challenge by improving performance at the bottom, and relatively less successful in promoting academic excellence and cultivating talent and leadership at the top of the performance distribution.
 - At the HE level, quality assurance has been reformed, shifting to an outcome and demand-led approach in which employers' and students' feedback contribute to the assessment of the quality and relevance of curricula and syllabi of educational programs. Relevance and quality are included among the criteria adopted by the quality assurance system to assess whether or not to provide/renew Higher Education Institutions' authorization and whether or not to accredit their programs. To ensure the application of the principle, representatives of employers and students are included in the authorization/accreditation evaluation committees.
- **Expanding access and equity**
 - While relevant efforts have been put in place to improve access and equity across all educational areas, a social inclusion policy with well-defined standards, targets, measures and tools, and with the MES in charge of its monitoring and evaluation, is still missing.

- The MES has been considering a VET reform which would eliminate dead-ends characterizing vocational training programs, making it possible for VET graduates to compete for university admissions. No draft, however, has yet been released.
- Since 2013, social programs for the funding of the education of disadvantaged students have more than doubled. Mechanisms for simplified enrollment in the higher educational programs and funding have been developed for ethnic minorities.
- **Changing governance**
 - A new system of accreditation and authorization was adopted in May 2016. Process, procedures and standards were changed in the bylaws to allow a greater focus on outcomes. As a consequence, also information requirements were modified, with HEIs required to provide statistics about inputs and outcomes (e.g. placement of alumni in the labor market). In 2017 the National Center for Education Quality Enhancement (EQE) started pilot evaluations in three HE institutions. During pilot evaluations 21 programs were evaluated by local and international experts. Based on the feedback collected during the pilot, some evaluating procedures were changed. According to EQE, this process showed that no major changes in accreditation/authorization standards were required. Students and business representatives have been included in the committees assessing the quality of programs to be accredited and of institutions under scrutiny for authorization and contribute to the definition and evaluation of outcome-focused targets.
- **Strategic management of the MES**
 - The Ministry has been developing its capacity in data collection, management and analysis. However, the Ministry's policy and planning capacity is still limited.
 - Responsibilities, lines of accountability, communication, monitoring and evaluation systems need to be better defined.
- **Public spending in Education**
 - The latest figures available indicate that Georgian public spending in education has increased since 2014 (from less than 3 to almost 4%). However, this figure still remains lower than expenditure for most other Former Soviet Union and Eastern European Countries.
- **Information and Communication Technologies**
 - It does not appear that a coherent and detailed policy framework to ensure the meaningful use of ICT to advance teaching and learning throughout the education system has been clearly defined.
- **Improving teaching quality in General Education**
 - Significant improvement have taken place in the General Education System (GES). However, the reform will still need time to be completed.
 - Among the most critical issues remain:
 - The reform of the pre-service training of school teachers is still on-going. Currently, the Ministry of Education and Science of Georgia, the National Education Enhancement Centre and state universities (in partnership with United Nations International Children's Emergency Fund (UNICEF) and Estonian experts) are working to introduce 300 credit (Bachelor (BA) and Master (MA level) programmes in universities for a full-fledged pre-service training of school teachers. In the meantime, the gap remains.
 - The process of requalification and/or substitution of current teachers who are not adequately qualified is proceeding slowly.
 - The compensation for the teaching profession is still far from competitive.
- **Modifying the Higher Education Financing**
 - Despite the doubling of public expenditure in HE during the period 2013-2017, the level of financing to the HES is still significantly below 1% of GDP.
 - Currently, most funding of HES is still coming from tuition fees (which, for public universities are not reflective of the cost of delivery).

3. Recent trends characterizing the Higher Education System in Georgia

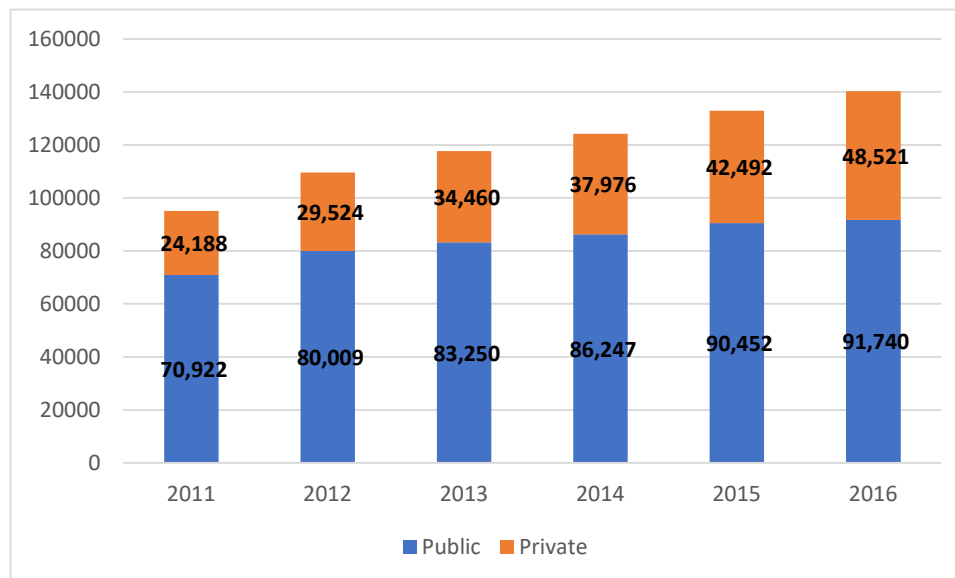
3.1 Institutions, students and lecturers

The Georgian higher education system has been going through significant transformations during the last decade³. In this section we provide an overview of the current state of the higher education system in Georgia.

According Georgian legislation, there are three types of authorized higher education institutions: Universities⁴, Teaching Universities⁵, and Colleges⁶. Currently, there are 71 authorized higher education institutions in Georgia (22 public and 49 private), up from 52 in 2011 (19 public and 33 private). Of the 71 authorized higher education institutions, 30 are classified as Universities, 24 as Teaching Universities, 9 as Colleges and 8 as “Orthodox Divinity Higher Educational Institution”.

The number of students enrolled in Georgian higher education institutions has also been increasing since 2011 (Figure 1). According to the most recent enrollment data, in 2016 more than 140,000 students were enrolled in Georgian Universities (up from about 95,000 in 2011). About two-thirds of the students are currently enrolled in public universities.

Figure 1. Number of students in private and public universities



Source: National Statistic Office of Georgia (Geostat)

How large is the Georgian gross enrollment rate in higher education from an international perspective? In Figure 2 we show the gross enrollment rate of 12 Eastern European and Former Soviet Union countries with a relatively similar GDP per capita⁷. The gross enrollment rate in higher education places Georgia in 7th position (out of 12 countries), very close to the neighboring Armenia and above the third South-Caucasus country in the sample, Azerbaijan. Georgia appears to be still quite far from the top three countries in the sample (Belarus, Ukraine and Bulgaria) and from the European Union (EU) average.

³ Some examples: introduction of the three-stage education system (BA, MA and Ph.D.), introduction of the European Credit Transfer and Accumulation System (ECTS), establishment of internal and external quality assurance systems and the creation of the National Qualification Framework.

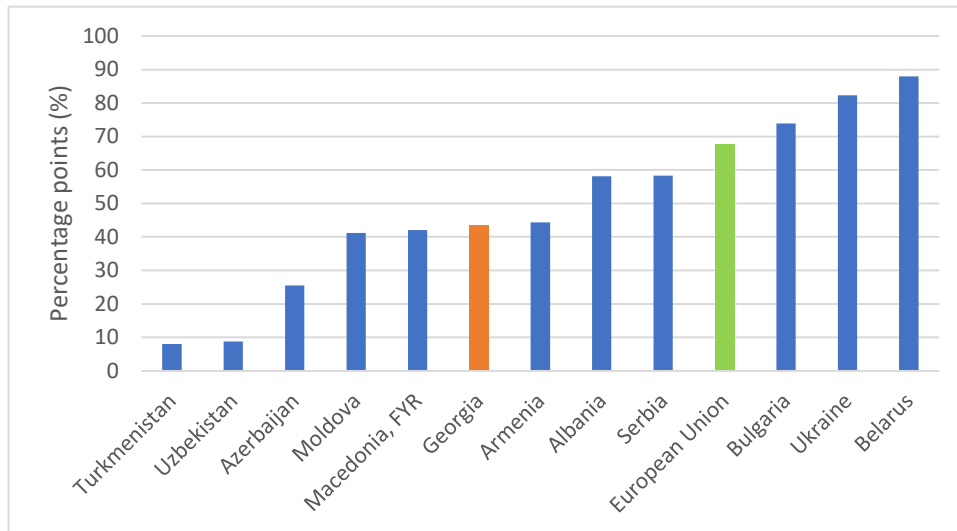
⁴ A higher education institution implementing the educational programs of all three cycles of higher education and scientific research.

⁵ A higher education institution implementing higher education programme/programmes (except for Doctoral programmes). A Teaching University necessarily implements the second cycle – Master’s educational programme/programmes.

⁶ A higher education institution, implementing only the first cycle academic higher education programmes.

⁷ All the countries under analysis had a GDP per capita between 2000 and 8000 USD (expressed in constant 2010 USD) in 2016. Georgia’s GDP per capita in that year was 4084 USD (8h out of 12).

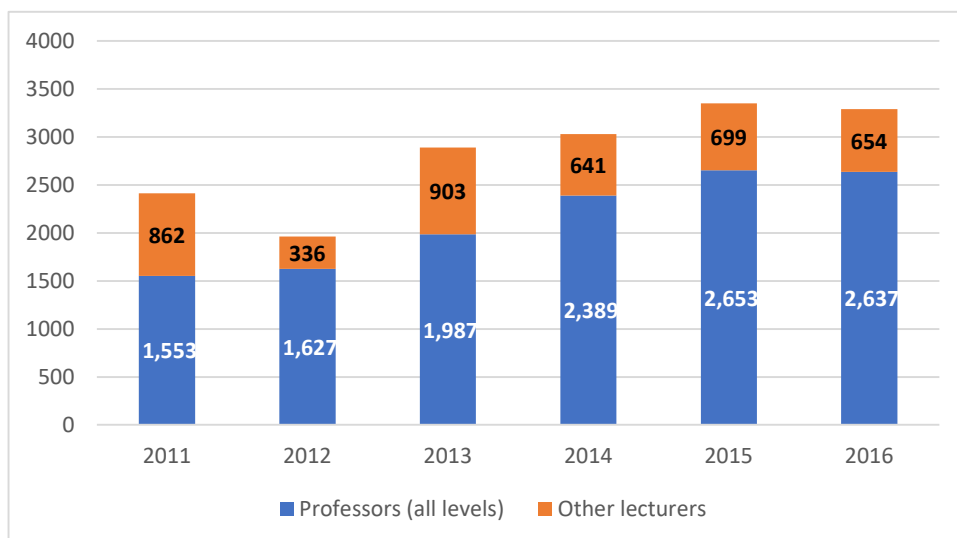
Figure 2. Gross enrollment rate in tertiary education, 2015



Source: World Development Indicator (WDI)

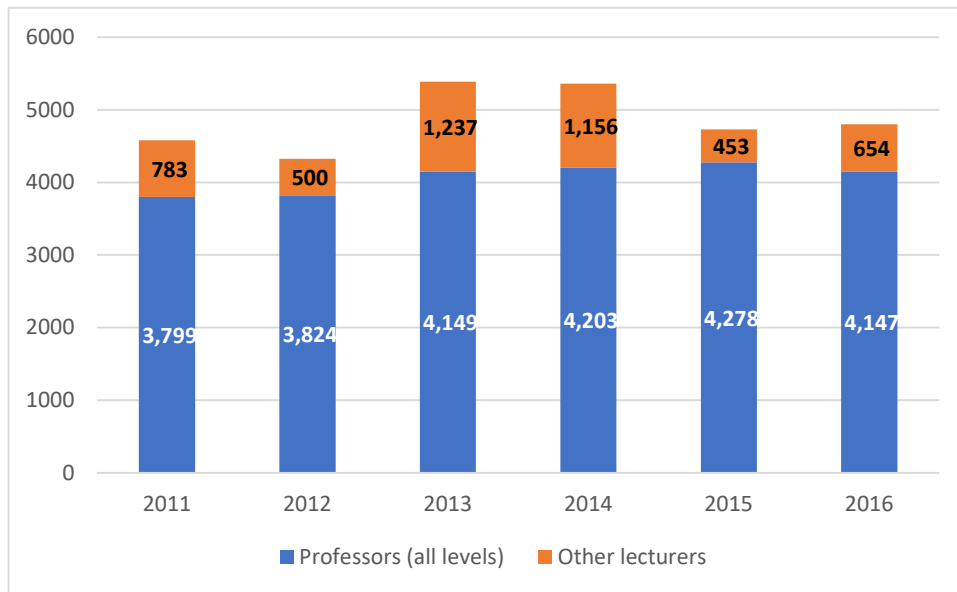
In response to the increase in student enrollment, universities have been recruiting new lecturers, more significantly at private universities than public universities (Figures 3 and 4). Public and private universities, however, seem to have been following different strategies in terms of recruitment, with public universities keeping the share of “other lecturers” relatively low, while in private universities the share of “other lecturers” has been increasing over time. The evolution in enrolment and hiring dynamics ultimately led to a slight reduction in the students/lecturer ratio among public higher education institutions (from 15.5 to 14.8 students per lecturer) and to a substantial increase in the same ratio for private higher education institutions (from 10 students per lecturer to 14.7 students per lecturer). (Table 1). These different trends appear even more evident looking at the ratio between the number of enrolled students and the number of professors, associate professors and assistant professors. Overall, the student-academic staff ratios in Georgia are only slightly higher than in the EU-28, where in 2015, student-academic staff ratios in tertiary education averaged 15.6.

Figure 3. Number of lecturers in private universities



Source: Geostat

Figure 4. Number of lecturers in public universities



Source: Geostat

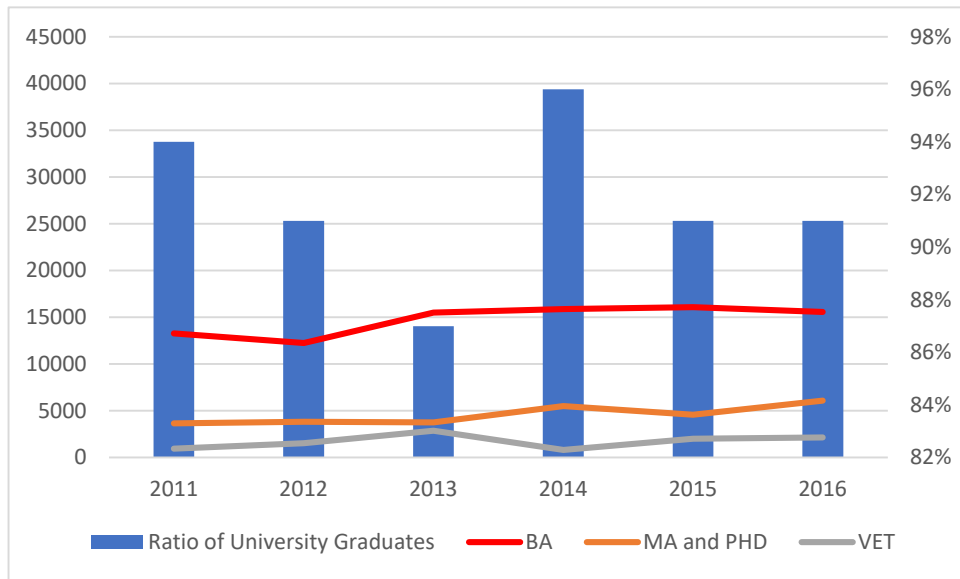
Table 1. Evolution of the ratio student/lecturers over the period 2011-2016

		2011	2012	2013	2014	2015	2016
Public							
	Professors (all levels)	18.7	18.5	17.1	16.9	16.6	17.1
	Professors (all levels) + other lecturers	15.5	16.4	13.2	13.2	15.0	14.8
Private							
	Professors (all levels)	15.6	18.1	17.3	15.9	16.0	18.4
	Professors (all levels) + other lecturers	10.0	15.0	11.9	12.5	12.7	14.7

Source: own calculation based on Geostat data

The last step in describing the current structure of the higher education sector and its evolution during the recent past is looking at the number and composition of its graduates, in comparison with VET (which constitutes an alternative path for students leaving secondary education). Figure 5 shows very clearly how the largest part (more than 90%) of students completing their post-secondary studies is composed of university graduates (BA, MA and Doctor of Philosophy (Ph.Ds)), with graduates from Vocational and Technical Schools representing usually less than 10%.

Figure 5. Number of graduates of vocational and technical schools, BA and higher level of tertiary education (2011-2016)



Source: own calculations based on Geostat data

3.2 Government grants and university funding

Currently university funding comes – especially for public universities – from tuition fees. The GoG spends every year significant financial resources to provide unconditional study grants (grants not tied to any field of study) to students who achieve good scores in the National Admission Exams. A relevant share of such funds – about 20% – is earmarked for students from disadvantaged groups, as showed in table 2.

Table 2. State Study Grants (including social program grants), BA and Masters

Academic Year	State Study Grants (Bachelors)		Social Program (Bachelors)		State Study Grants (Masters)		Social Program (Masters)	
	Budget (GEL)	# of Funded Students	Budget (GEL)	# of Funded Students	Budget (GEL)	# of Funded Students	Budget (GEL)	# of Funded Students
2012-2013	8925000	7797	1118000	871	2000000	894	0	0
2013-2014	9020000	6453	2520000	1411	2000000	896	205000	65
2014-2015	9165000	6558	2520000	1370	2000000	898	205000	71
2015-2016	9165000	6742	2520000	1367	2000000	896	205000	71
2016-2017	9165000	6646	2520000	1382	2000000	897	205000	69
2017-2018	9155000	6732	2520000	1361	2000000	892	205000	92

Source: MES

This, however, is not the only type of grants provided to students wishing to enroll in higher education institutions. As shown in table 3, the Georgian state funds devotes approximately an equivalent amount to grants funding studies in the so-called “priority programs”⁸. This increases the number of grants accessible to students deciding to enroll in the identified programs, who – on average – receive also substantially higher grants than would be possible according to the basic scheme. In this case no slots are reserved for disadvantaged groups.

⁸ In 2017/18 these programs were: Education, Agriculture, STEM subjects, Social Sciences, Engineering Sciences, Humanitarian Sciences.

Table 3. Priority programs

Academic Year	Budget (GEL)	# of Funded Students
2013-2014	10200000	3261
2014-2015	11295000	4551
2015-2016	12723750	4962
2016-2017	12723750	4937
2017-2018	12723750	5184

Source: MES

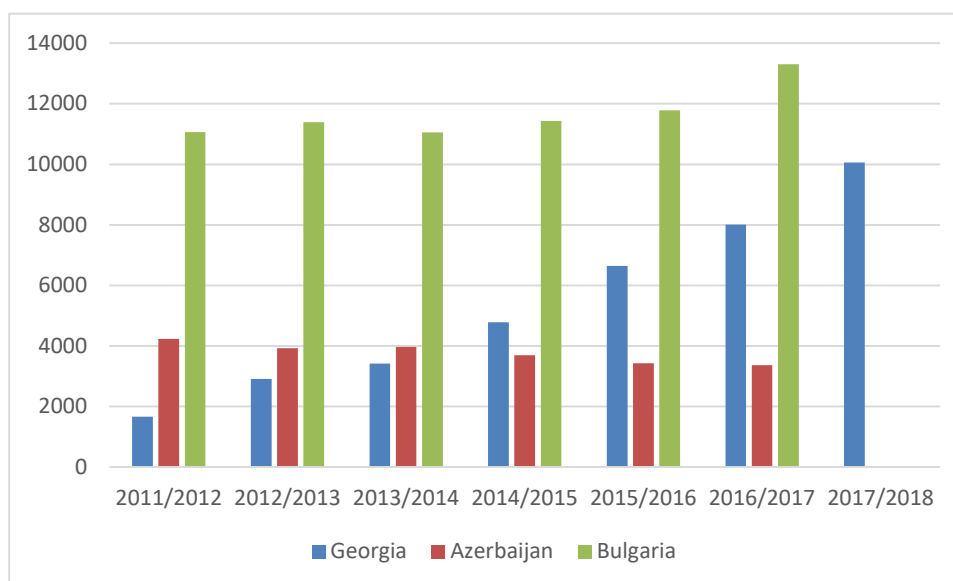
Priority funding was intended to provide additional (and more stable) funding for public universities. In principle it guarantees that disciplines/programs that meet certain labor market needs are supported. This initiative was also meant to be followed up by a proper measurement of the results achieved. Unfortunately, this never happened. In the meantime, a drawback of the initiative has emerged: as this fields are not all popular among students, but offer a relatively high number of grants and provide relatively good financial conditions, students with lower entrance test scores have been entering such programs, diluting their quality and devaluing the perceived quality of education provided by the programs. The number of assigned study places to the priority fields does not appear to be clearly linked to any rigorous assessment of demand in the labor market.

3.3 Openness of Georgian HEI

As mentioned in the introduction, one of the priorities indicated in the Unified Strategy for Education and Science 2017-2021 of the GoG is the promotion of the internationalization of the Georgian HES. In the same document, the GoG stresses its commitment to establish the country as a regional educational center.

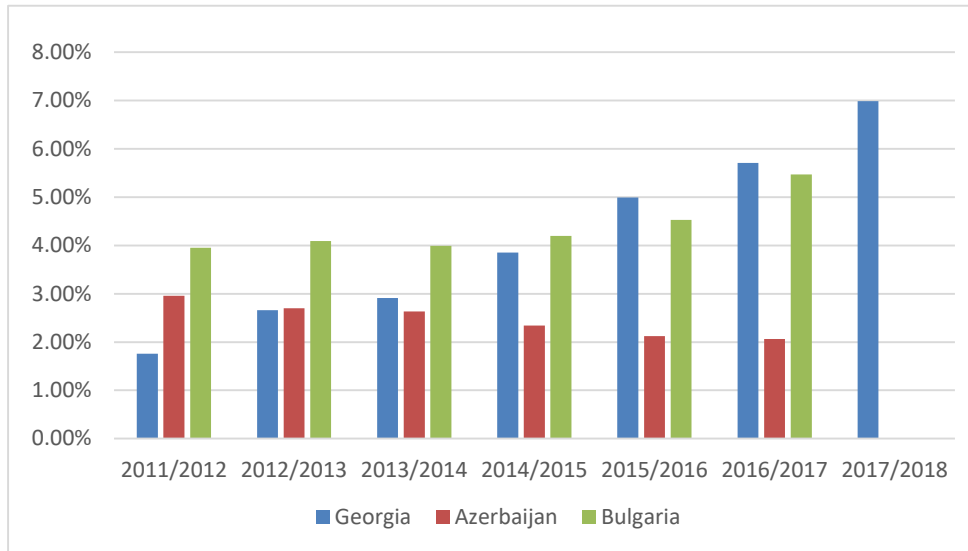
Over the last seven Academic Years, the number of foreign students enrolled in Georgian HE programs has increased more than five times, from less than 1,670 to 10,063 (Figure 6). In comparison, the number of foreign students enrolled in Azerbaijani and Bulgarian HE programs declined (-20%) and moderately increased (+20%). In the last Academic Year (2017/18) the share of foreign students in Georgian HE rose to 7%, up from about 1.8% in 2011/12 (Figure 7).

Figure 6. Number of foreign students among the higher education students (MA; BA; PH.D)



Source: Geostat, the State Statistical Committee of the Republic of Azerbaijan, National Statistical Institute of the Republic of Bulgaria.

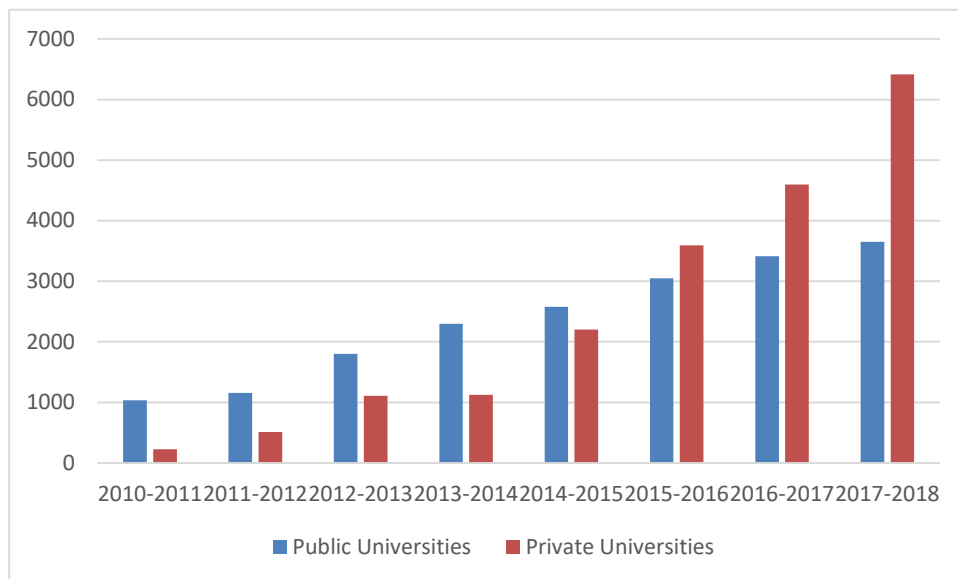
Figure 7. Percentage of foreign students among the higher education students (MA; BA; PHD)



Source: Geostat, the State Statistical Committee of the Republic of Azerbaijan, National Statistical Institute of the Republic of Bulgaria.

The number of international students grew both in private and in public universities, with private universities absorbing almost two thirds of the international students in the Academic Year 2017-18 (Figure 8).

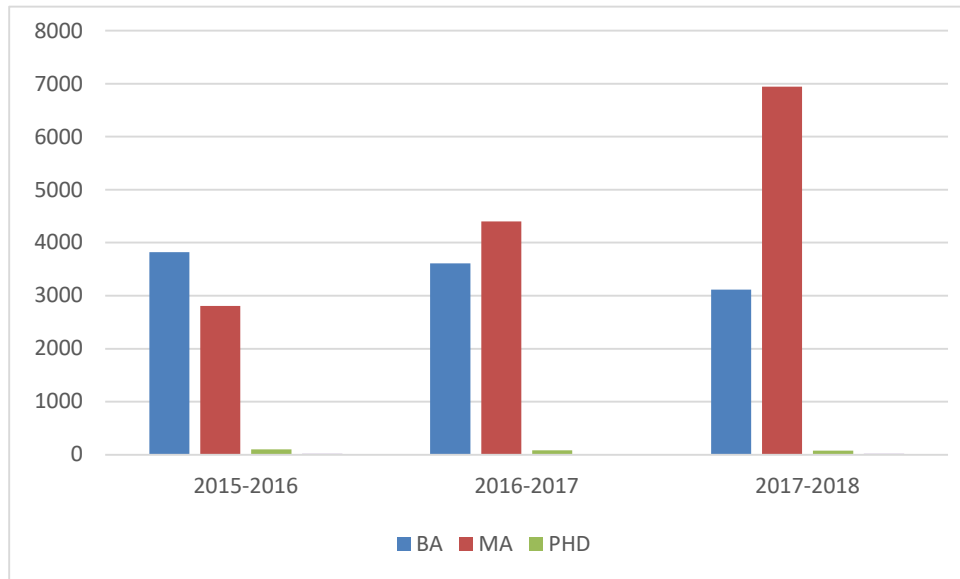
Figure 8. Number of foreign students by university type



Source: Geostat

Most international students (almost 70%) enrolled in Master Programs.

Figure 9. Number of Foreign Students in Institutions by type of degree



Source: Geostat

4. Key system-wide issues

The Georgian HES must keep modernizing and improving, to be able to contribute more decisively to the development of the country, both by raising the level of human capital in the country and generating innovative research. The capacity of the HES to modernize, become better integrated in the international (particularly European) HE community, and steadily improve the quality of the outcomes it delivers depends on several key factors, first and foremost the quality and quantity of inputs entering the system and the incentives the actors taking part to the system are facing. Quality and quantity of inputs as well as the incentives faced by economic agents are, in turn, influenced by the institutional and legal framework in which HEIs operate. In this section we will be discussing the challenges characterizing the Georgian HES, as they emerged from the discussion with stakeholders and our research efforts.

4.1 Quality and quality assurance

4.1.1 Quality of inputs: students

A serious problem mentioned by almost all the stakeholders interviewed is the low level of preparedness of many students that are admitted to higher education studies. This is a consequence of the poor performance of the general education segment, well documented by the poor results of Georgian students in international tests (TIMSS, PIRLS, PISA) relative to their peers (tables 4 to 7). Despite an improvement over time, Georgian students' scores are still lower with respect to those of their peers in reading, mathematics and science.

Table 4. TIMSS scores, grade 4: 2011-2015

TIMSS 2011	Georgia	Serbia	Central and Eastern Europe ⁹		Western Europe ¹⁰	Lithuania	Russian Federation
Mathematics	450	516	508		521	534	542
Science	455	516	522		525	515	552
TIMSS 2015	Georgia	Serbia	Central and Eastern Europe ¹¹	Bulgaria	Western Europe ¹²	Lithuania	Russian Federation
Mathematics	463	518	521	524	525	535	564
Science	451	525	534	536	522	528	567

Source: National Center for Education Statistics

Table 5. Grade 8: 2011-2015

TIMSS 2011	Georgia	Macedonia, FYR	Lithuania		Armenia	Ukraine	Russian Federation
Mathematics	431	426	502		467	479	539
Science	420	407	514		437	501	542
TIMSS 2015	Georgia	Western Europe ¹³	Lithuania	Hungary	Slovenia	Kazakhstan	Russian Federation
Mathematics	453	494	511	514	516	528	538
Science	443	503	519	527	551	533	544

Source: National Center for Education Statistics

Table 6. PIRLS scores – grade 4 – year 2016

	Georgia	Azerbaijan	Western Europe ¹⁴	Bulgaria	Central and Eastern Europe ¹⁵	Russian Federation
Reading	488	472	538	552	550	581

Source: National Center for Education Statistics

Table 7. PISA scores – grade 4 – year 2016

PISA 2016 – 15 years	Georgia	Moldova	Montenegro	Romania	Bulgaria	Lithuania	Russia	OECD Average
Reading	401	416	427	434	432	472	495	493
Mathematics	404	420	418	444	441	478	494	490
Science	411	428	411	435	446	475	487	493

Source: National Center for Education Statistics

⁹ Central and Eastern Europe average covers following selected countries/participants: Croatia, Czech Republic, Hungary, Lithuania, Poland, Serbia, Slovak Republic, and Slovenia.

¹⁰ Western Europe average covers following selected countries/participants: Austria, Belgium (Flemish)-BEL, Denmark, Finland, France, Germany, Greece, Iceland, Italy, Netherlands, Norway, Portugal, Spain, and Sweden.

¹¹ Central and Eastern Europe average covers following selected countries/participants: Bulgaria, Croatia, Czech Republic, Hungary, Lithuania, Poland, Serbia, Slovak Republic, Slovenia

¹² Western Europe average covers following selected countries/participants: Austria, Belgium (Flemish)-BEL, Denmark, Finland, France, Germany, Greece, Iceland, Italy, Netherlands, Norway, Portugal, Spain, and Sweden.

¹³ Western Europe average covers following selected countries/participants: Austria, Belgium (Flemish)-BEL, Denmark, Finland, France, Germany, Greece, Iceland, Italy, Netherlands, Norway, Portugal, Spain, Sweden.

¹⁴ Western Europe average covers following selected countries/participants: Austria, Belgium (Flemish)-BEL, Denmark, Finland, France, Germany, Italy, Netherlands, Norway, Portugal, Spain, Sweden.

¹⁵ Central and Eastern Europe average covers following selected countries/participants: Bulgaria, Czech Republic, Hungary, Latvia, Lithuania, Poland, Slovak Republic, Slovenia.

Currently, this puts universities in front of a trilemma: either they choose to deny access to the weaker students, or they accept them but invest additional resources to develop and deliver remedial courses, or - simply -they accept that many students will be getting very limited benefits from attending their courses and the average quality of their graduates will be lower. The final choice of universities will depend on the incentives in place. Currently, given the close link between funding and the number of students, the incentives are set to maximize the student intake. While some universities may indeed invest resources in bringing the weaker students up to speed, the concern expressed by several stakeholders is that the majority of them may not, thereby ensuring weak students coming in will remain weak students coming out—either departing as early leavers/drop outs or graduating without the expected skills.

This issue has become so pressing that some institutions have chosen (or are considering) to engage directly in secondary education to contribute with their know-how and make sure secondary education students acquire the skills necessary to undertake successfully higher education studies.

4.1.2 Quality of inputs: lecturers and curricula

The low quality of lecturers and of the curricula are two other issues raised by the stakeholders we met. Concerns in this area are related to: the quality of existing lecturers, the availability of new and well-prepared lecturers, the quality of curricula, often perceived as outdated and – in several cases – not adequate to prepare students for the labor market (be it inside or outside academia).

The quality of existing lecturers is uneven. In several universities, faculty members are not able to keep up with the development of their respective disciplines, of the society and of the economy. In a 2017 pilot exercise, the EQE had 21 programs evaluated by local and international experts. The results indicated that several syllabi needed to be updated and made more relevant and several programs needed substantial adjustments. Also the analysis of the scientific productivity of Georgian researchers testifies the difficulty Georgian lecturers have in keeping up with the development of their respective disciplines. Georgian researchers tend to achieve good results in traditionally “strong” areas such as natural sciences, mathematics and physics, but results are much weaker in “non-traditional areas” such as social sciences. Outdated syllabi and the failure to keep up with the developments in the discipline result in a reduced relevance of the courses and in a limited capacity to encourage students’ active participation. This results in lower attendance rates and in limited development in students’ knowledge and skill¹⁶.

Recruiting new lecturers is necessary both to replace leaving lecturers, bring in new and more effective teaching methods, and to maintain an adequate students/lecturer ratio in a situation characterized by the steady increase in the number of students enrolling. Even though – according to the representatives of HEI we have interviewed – the availability of good lecturers seems to be increasing, thanks to the development of international initiatives to favor the exchange of lecturers, utilized also to attract back members of the “academic diaspora”, and to the autonomous return of Georgian scholars after periods spent abroad, universities still face substantial difficulties in recruiting and retaining high quality (international level) lecturers and researchers. Limited revenues from tuition fees (capped at 2,250 GEL for public universities), especially after the depreciation of the Lari, are not helping.

Several universities are adopting “creative solutions” to strengthen their profile (e.g. getting high-profile lecturers only “part-time”, using international cooperation projects to increase the attractiveness of Georgian institutions for international scholars and involve them in local activities), but these short-term ad-hoc solutions cannot replace a proper funding scheme and the construction of a strong and modern academic environment within universities.

The “recruitment challenge” is especially acute for regional universities that generally have a lower level of financial and human resources. This challenge leads them, in some cases, to rely on lecturers commuting from Tbilisi, especially when they want to expand the portfolio of courses they offer in response to market demand.

¹⁶ Concerns about university graduates’ knowledge and skills have been expressed by businesses in direct consultations and are in line with the results of the Georgia STEP Employer Skills Survey, discussed by Jan Rutkowski in a 2013 working paper (Rutkowski, 2013). The “discouragement effect” to attend classes, due to outdated teaching methods and syllabi, has emerged in focus groups and direct consultations with university graduates.

In general, employers – as documented in employers’ surveys and from our direct consultations – perceive most universities (both private and public ones) as slow in adapting their strategies and programs to the new challenges posed by a fast-changing world and to the emerging needs. As mentioned above, the results of the 2017 pilot evaluation conducted by EQE supported the claims that several programs needed substantial improvements both in terms of quality and relevance.

Another rigidity characterizing the higher education system is associated with the difficulties students who intend (or need to) work on a full or part-time basis encounter. While this may be important, either to fund their studies or to improve their future career prospects, Universities can choose not provide student with part-time options, while requiring them to pay the full tuition. Despite this, many students choose work¹⁷, often with negative consequences on their academic performance.

4.1.3 Quality of inputs: other inputs

Additional challenges faced by several higher education institutions are:

- Lack of good quality, modern studying materials in Georgian language for many subjects;
- Lack of modern and well-equipped laboratories;
- Lack of adequate software for fighting plagiarism (currently no software can catch plagiarism in Georgian) and, more generally, of genuine software (including operating systems, technical softwares and standard office applications).

Public universities in some instances find challenging even just to buy materials for laboratories, with the requirement to issue tenders making the process more difficult and prolonged. They face similar challenges also in the management of their already existing assets.

4.1.4 Quality of outputs: heterogeneous quality of education

Differences in input availability give life to a quite high level of heterogeneity in the quality of education different institutions deliver. While some higher education institutions and faculties are perceived as delivering an adequate or even good level education, there is a widespread impression that several substandard institutions continue to exist.

We have already shown some evidence of that, in the previous section, as far as research outputs are concerned.

However, this does not tell us a lot about the heterogeneity of universities in terms of their contribution to the development of their students. Thanks to the availability of a dataset provided by the National Assessment and Examination Center (NAEC), in which are contained information about all students taking MA, BA and Computer Adaptive Testing (CAT) exams in recent years, we decided to explore the issue. As we disposed of both MA and BA test scores, we decided to check whether individuals studying in some universities appeared to score systematically better or worse in the MA test relatively to what they did in the BA test. We performed this analysis for a subsample of 2,102 students taking the MA admission tests, for which we have both MA, BA and CAT scores. We started by subtracting the rank in the BA exam from the rank in the MA exam. If the result was negative it meant that the student improved his ranking. In case the result was positive, the opposite was true. We then calculated the average change at the university level. We called this value “average raw rank” improvement/deterioration. This result is shown in table 6. It is clear that, indeed, the variation in performance across universities is extremely large. While students in the “best performing university” gain on average 831 positions from the BA to the MA admission exam, the students in the “worst performing university” lose on average 438 positions.

¹⁷ In a recent online poll we conducted among university students, 55% of respondents (84 out of 153) declared to be working.

Table 8. Average change in ranking of MA applicants with respect to their rank in the BA admission exam (by university)

Number of Higher Education Institutions in the dataset	49
Maximum (avg.) raw rank improvement	831
Maximum (avg.) raw rank deterioration	438.25
Number of Observations (students observed)	2,102

Source: own calculations based on NAEC data

As a subsequent step we decided to check whether it was possible establish a correlation between the type of institution attended during the BA studies and the performance at the MA admission exam. In particular, we wanted to test the divide between students studying in Tbilisi and those studying outside the capital and attending public instead of private universities. We chose to test the strength of these relationships using two different dependent variables: the rank in the MA admission test and the score in the MA admission test. The results of our analysis are presented in table 9.

Table 9. Determinants of rank/score in the MA admission test

	Rank1 ^a	Rank2 ^b		Score1 ^a	Score2 ^b
Male	-39.288*	-39.288	Male	0.272**	0.272**
	(20.375)	(23.675)		(0.111)	(0.133)
Rank in BA admission	0.456***	0.456***	Score in BA admission	0.012***	0.012***
	(0.020)	(0.040)		(0.000)	(0.001)
Rank in CAT	0.253***	0.253***	Score in CAT	0.872***	0.872***
	(0.019)	(0.017)		(0.066)	(0.055)
Tbilisi University	-178.309***	-178.309***	Tbilisi University	0.874***	0.874***
	(26.641)	(49.485)		(0.136)	(0.254)
Public University	-112.691***	-112.691*	Public University	0.535***	0.535
	(23.182)	(59.138)		(0.123)	(0.332)
Year controls	Yes	Yes	Year controls	Yes	Yes
Regional controls	Yes	Yes	Regional controls	Yes	Yes
R-squared	0.54	0.54	R-squared	0.55	0.55
Observations	2,099	2,099	Observations	2,099	2,099

Source: own calculations based on NAEC data

^a Robust standard errors in parentheses; ^b Clustered standard errors (by university) in parentheses.

*** Significant at 1%, ** significant at 5%, * significant at 10%. Default categories are: Female, University outside Tbilisi, Private University.

Our results, not surprisingly, highlight a strong positive correlation between scores (and rank) in previous tests and the new score (rank). Another important variable appears to be the location of the university where the student attended his/her BA. Individuals studying in Tbilisi during their BA can expect a higher score than they would expect if they were studying outside Tbilisi and, therefore, to rank higher. There seems to be also some evidence (albeit weaker) that students from public universities (and males) tend to perform better than those from private universities (and females) with otherwise similar characteristics.

Overall, assuming BA and MA measure similar attributes and these attributes are correlated with the development of students during their academic careers, these results are consistent with the expectation that the choice of different higher education institutions can indeed affect individual development, with an apparent advantage - for example - for the students studying in the capital and, possibly, in public universities.

Several stakeholders, however, raised justified concerns about whether existing admission tests – introduced with the main purpose of streamlining the admission process and to fight corruption at the university level – are indeed good predictors of the future performance of prospective students and measure really their preparation and skills.

The dissatisfaction expressed by employers and business associations vis-à-vis the performance of university graduates (especially of those coming from public universities) does indeed seem to imply that this type of measure is not an adequate measure of relevant outcomes and skill development.

4.1.5 Quality of outputs: performance of higher education graduates in the labor market

An extremely important aspect to analyze when reviewing the state of the higher education system is the performance of its graduates in the labor market. In order to get a more updated picture we will focus on the age group 25-34, which includes individuals starting their higher education studies at the beginning the 2000's. We will compare the employment opportunities for this age group with the outcomes for an older age group (age 35-49) who graduated in the 90's. We will also estimate the labor market premium received by employed individuals with a higher education diploma relative to individuals with different educational attainments. Women with higher education diplomas in the age group 25-34 appear to be substantially more active in the labor market relative to women with lower educational attainment levels (more than 66.7% for BA degree holders and 72.7% for MA/Ph.D. vs. at most 53% for the other groups), and to experience substantially higher employment rates (54.3% for BA degree holders and 62.6% for MA/Ph.D. vs. values between 45.2% and 35% for the other groups). This indicates clearly a positive impact of higher education on the labor market outcomes of women, even though the unemployment rates of high educated women (especially with BA degree) remain in two digits.

Table 10. Aggregate levels of education by labor market status, age group 25-34 (%), 2016

	Females			Males			Total		
	Inactive	Employed	Unemployed	Inactive	Employed	Unemployed	Inactive	Employed	Unemployed
Less than basic and basic ¹⁸	56.5	34.8	8.7	10.8	56.8	32.4	28.3	48.3	23.3
Intermediate ¹⁹	47.8	45.2	7.0	6.8	76.1	17.1	22.8	64.1	13.2
Advanced -upper secondary program and higher professional program	46.4	42.9	10.7	2.4	78.0	19.5	32.0	54.4	13.6
Advanced -bachelor or equivalent	33.3	54.3	12.4	2.0	76.2	21.8	18.0	65.0	17.0
Advanced -master or equivalent, doctor or equivalent	27.3	62.6	10.1	2.3	84.1	13.6	15.5	72.7	11.8

Source: IHS, 2016

Note: Aggregate levels of education are based on International Standard Classification of Education 2011 (ISCED-11)

The picture is less sharp looking at men. Participation rates of men are very similar (and above 90%) for all educational categories, with the only real difference being the incidence of unemployment across groups. In fact, the group of men with education less than basic and basic experience substantially higher unemployment rates with respect to the other groups. Overall, due to the higher attachment of men to the labor market, unemployment levels look quite high also for men holding BA degrees (1 out of 5 is unsuccessfully looking for a job), while only men with MA or Ph.D. degrees are relatively better off.

¹⁸ Includes: illiterate, does not have primary education but can read and write, pre-primary education, primary education, lower secondary education.

¹⁹ Includes: upper secondary education and vocational program.

Different from the experience of younger women, the few women in the age group 35-49 holding a BA degree show substantially lower employment rates not only with respect to women with MA/Ph.D., but also with respect to women with lower educational attainments. Their participation rate, however, is just slightly lower than that of the other groups. Women aged 35-49 holding an advanced-upper secondary program/higher professional program diploma look much better off compared to their younger counterparts and even better than educated individuals in their same age group.

Interestingly enough, different from what was observed in the younger cohort, men with a BA degree show the highest employment and participation rates, as opposed to the holders of MA/Ph.D. degrees, that remain in the labor market but show by far the highest unemployment rate.

Table 11. Aggregate levels of education by labor market status, age group 35-49 (%), 2016

	Females			Males			Total		
	Inactive	Employed	Unemployed	Inactive	Employed	Unemployed	Inactive	Employed	Unemployed
Less than basic and basic ²⁰	36.7	63.3	0.0	15.4	79.5	5.1	27.3	70.5	2.3
Intermediate ²¹	25.2	70.9	3.9	9.7	83.5	6.8	16.4	78.0	5.6
Advanced -upper secondary program and higher professional program	13.8	77.8	8.5	8.3	82.1	9.5	12.1	79.1	8.8
Advanced -bachelor or equivalent	20.0	60.0	20.0	0.0	91.3	8.7	9.3	76.7	14.0
Advanced -master or equivalent, doctor or equivalent	14.5	74.0	11.5	4.3	78.0	17.7	10.3	75.7	14.0

Source: IHS, 2016

Note: Aggregate levels of education are based on ISCED-11

As far as labor market participation and employability are concerned, the higher education sector seems to provide women with a significant advantage. The same is true only for men with MA/Ph.D; while it is not true, for those with a BA degree, whose outcomes are broadly comparable with those of individuals with lower educational attainment (even slightly worse than those with upper secondary and higher professional program diplomas).

To complete the picture, it is interesting to observe the returns to different types of education estimated for the year 2016 (table 12). In table 12 we report the estimated coefficients of simple Mincer regressions (for salaried workers). We estimate the Mincer regressions for individuals with age 15-49, separately by gender.

²⁰ Includes: illiterate, does not have primary education but can read and write, pre-primary education, primary education, lower secondary education.

²¹ Includes: upper secondary education and vocational program.

Table 12. Mincer regression results for individuals aged 15-49, by gender. Year 2016

	Women	Men
Intermediate	-0.022 (0.258)	-0.399* (0.224)
Advanced -upper secondary program and higher professional program	-0.385*** (0.082)	0.109 (0.077)
Advanced -bachelor or equivalent	0.282*** (0.085)	0.308*** (0.083)
Advanced -master or equivalent, doctor or equivalent	0.274*** (0.060)	0.373*** (0.067)
Age	-0.019 (0.040)	0.043 (0.042)
Age2	0.000 (0.001)	-0.001 (0.001)
Constant	6.166*** (0.735)	5.281*** (0.757)
R2	0.11	0.08
N	691	556

Source: own calculations based on Integrated Household Survey (IHS) data

For the salaried workers of both genders, higher education is associated with a significant premium of about 30% or more with respect to individuals with lower education, including individuals with upper secondary and higher professional program diplomas. Surprisingly, women in this category seem to perform even worse than less educated women, with an expected loss of near 40% with respect to women with basic education. The same is not true for men.

Overall, while still far from optimal, the performance of higher education graduates in the labor market seems significantly better than for other groups, especially as far as younger cohorts (in particular younger women) are concerned. It is therefore not surprising that young generations look increasingly willing to enrol into higher education programs.

What can we expect for the future? The performance of the higher education graduates in the labor market, will depend both from demand side and supply side factors. On the demand side we have the performance of the economy, its structure and its level of development, which determine the number and the type of job openings. On the supply side, instead, we have the characteristics of individuals, their educational choices and the quality of higher education institutions.

Demand side

Despite its substantial growth characterizing the last decade, the Georgian economy has not been as successful in increasing the number of employed (table 13).

Table 13. Evolution of GDP per capita and labor market statistics (2006-2016)

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Average growth rates
GDP per capita at constant prices (2010)	17574	19784	20263	19523	20743	22241	23654	24455	25586	26323	27072	4.4%
Employed	1747	1704	1602	1656	1628	1664	1724	1712	1745	1780	1763	0.1%
Hired	604	625	572	596	619	632	663	658	692	753	745	2.1%
Self-employed	1142	1079	1029	1059	1007	1025	1054	1044	1046	1018	1011	-1.2%

Source: WDI

Tables 14 and 15 allow us to deepen our analysis, checking changes in the occupational and sectoral structure of employment in Georgia during the period 2011-2016. The tables report outcomes for employed individuals of age 15-49, showing separately the outcomes for females (table 12) and males (table 13)²².

Table 14. Changes in the occupational and sectoral structure of employment in Georgia, 2011-2016 (females, age 15-49)

	Employment share, % of total employment		Percentage point change in shares, 2011 - 2016
	2011	2016	
1. Senior Officials and Managers	2.440	3.260	0.820
2. Professionals	15.820	17.520	1.700
3. Technicians and associate professors	9.380	12.060	2.680
4. Clerks	2.120	4.190	2.070
5. Service workers and shop and market sales workers	12.200	12.190	-0.010
6. Skilled agricultural and fishery workers	53.580	45.050	-8.530
7. Craft and related trade workers	1.110	1.990	0.880
8. Plant and machine operators and assemblers	0.170	0.020	-0.150
9. Elementary occupations	3.180	3.720	0.540
Skill level 4 (ISCO groups 1-2)	18.260	20.780	2.520
Skill level 3 (ISCO group 3)	9.380	12.060	2.680
Skill level 2 (ISCO groups 4-8)	69.180	63.440	-5.740
Skill level 1 (ISCO groups 9)	3.180	3.720	0.540
High-tech industry	-	-	-
Medium-high-tech industry	2.06	0.68	-1.38
Medium-low-tech industry	1.69	1.02	-0.66
Low-tech industry	37.80	37.63	-0.18
Knowledge-intensive services	38.18	43.17	4.99
Less Knowledge-intensive services	20.26	17.49	-2.77

Source: IHS, 2016

Between 2011 and 2016 occupational opportunities for Georgian women in the age group 15-49 seem to have changed significantly, with 5.2% increase in the share of women working in positions requiring a relatively high skill level (International Standard Classification of Occupations (ISCO) skill levels 3 and 4 – requiring typically competences acquired in higher education institutions), a 0.6% increase in the share of women working in elementary occupations (ISCO skill level 1) and a decline (-5.8%) in less skilled occupations (ISCO skill level 2 – typically requiring competences acquired in secondary education studies). The net reduction in the share of women occupied in skill level 2 occupations, however, masks very different underlying trends, with some occupations gaining (clerks and craft and related trade workers) while others lose (most notably skilled agricultural and fishery workers). These developments are accompanied by a slight (but noticeable) change in the sectoral structure of the economy, with an expansion in knowledge intensive (+4.99%) and a reduction in the share of employed in the other segment of the economy, particularly the less knowledge-intensive one (-2.77%).

²² The criteria used to aggregate the data by occupation and by sector can be found in tables A1 and A2 in the appendix.

Table 15. Changes in the occupational and sectoral structure of employment in Georgia, 2011-2016 (males, age 15-49)

	Employment share, % of total employment		Percentage point change in shares, 2011-2016
	2011	2016	
1. Senior Officials and Managers	3.630	3.450	-0.180
2. Professionals	6.500	6.920	0.420
3. Technicians and associate professors	5.910	6.330	0.420
4. Clerks	0.800	1.740	0.940
5. Service workers and shop and market sales workers	10.420	10.060	-0.360
6. Skilled agricultural and fishery workers	48.230	44.340	-3.890
7. Craft and related trade workers	8.360	9.970	1.610
8. Plant and machine operators and assemblers	7.230	8.520	1.290
9. Elementary occupations	8.920	8.670	-0.250
Skill level 4 (ISCO groups 1-2)	10.130	10.370	0.240
Skill level 3 (ISCO group 3)	5.910	6.330	0.420
Skill level 2 (ISCO groups 4-8)	75.040	74.630	-0.410
Skill level 1 (ISCO groups 9)	8.920	8.670	-0.250
High-tech industry	1.98	2.95	0.97
Medium-high-tech industry	10.74	14.28	3.53
Medium-low-tech industry	45.74	49.51	3.77
Low-tech industry	28.27	19.48	-8.79
knowledge-intensive services	13.27	13.78	0.52
Less Knowledge-intensive services	1.98	2.95	0.97

Source: IHS, 2016

The analysis for men (table 15) shows a slightly different picture, with the share of men working in skill level 3 and 4 occupations going up by a mere 0.7% and the share of men working in skill level 2 and 1 occupations declining. The only occupations expanding among skill level 2 categories are clerks (+0.9%), craft and related trade workers (+1.6%) and (different from women) plant and machine operators and assemblers (+1.3%). Also in this case the biggest share drop characterizes the occupational category skilled agricultural and fishery workers. The sectoral changes for men are characterized by an increase in the share of in all sectors but low- tech industry (-8.79%). Among the most encouraging trends is the increase in the share of men employed in medium-high and high tech industry, which suggests a movement towards a more modern structure of the economy.

These trends show a moderately positive picture of the Georgian labor market, in which an encouraging increase in the demand for more qualified profiles (driven by the knowledge intensive sectors and – for men – by the the medium-low, medium-high and high-tech industry) is taking place, helping women closing the gap with men in top positions (senior officials and managers) and increasing their “lead” in the categories professionals/technicians and associate professors (30% for women against 13% for men in 2016 vs. 25% and 12% in 2011). Still, many jobs currently remain in the low-tech industry and in the less knowledge-intensive services (55% for women and 23% for men, respectively).

Supply side

Despite the good performance of the most recent cohort of graduates in the labor market, at least relative to less educated individuals, according to the 2017-18 edition of the Global Competitiveness Index, the quality of the higher education and training activities is still a penalizing factor for the competitiveness of the Georgian economy. Georgia is ranked below the 100th position (out of 137 countries) in a number of areas: quality of the higher

education system (107), quality of math and science education (103), quality of management schools (113), local availability of specialized training services (131). This is consistent with the results of the 2012 Employer Survey conducted by the World Bank, according to which the largest problem faced by employers in Georgia is the difficulty in finding employees with adequate skills. Among the lacking skills employers cite more often with respect to university graduates are: knowledge of foreign languages (69%), leadership (55%), creative thinking (40%) and problem-solving skills (30%). While better than the outcomes for secondary education graduates, and even accounting for the lag with which the inflow of better prepared cohort of graduates affects the perceptions of employers, these outcomes can hardly be considered satisfactory and require action.

4.1.6 Quality Assurance

Quality control in higher education is managed by EQE. Until 2016 – and as highlighted in the already mentioned World Bank report (World Bank, 2014) – quality control criteria were mostly “input-based” and, according to several stakeholders, they did not provide proper incentives to deliver high quality education. This system, overall, was perceived as suboptimal and incapable of guaranteeing that “worse quality institutions” were denied accreditation, a perception that some stakeholders still have. In some cases, some stakeholders added, quality assurance requirements may imply greater costs for the institutions trying seriously to improve their quality than for those focusing just on satisfying the formal requirements. As one of the main strategic goals of Georgian higher education system over the past years has been to follow European higher education standards, another challenge signaled from stakeholders were associated with the fact that until recently European higher education standards appeared to Georgian stakeholders as constantly changing, which made more complex to design and follow a clear higher education development strategy.

Many of these changes have been taking place as Georgia has been actively working to join the European Association for Quality Assurance in Higher Education (ENQA). Currently EQE is an affiliated member of ENQA. In May 2018, however, EQE presented its application to become member. ENQA is an organization which represents quality assurance organizations from the European Higher Education Area (EHEA) member states. In order for Georgia to become a member of ENQA, the country should satisfy the Standards and Guidelines for quality assurance in the European Higher Education Area (ESG) requirements. The successful completion of this process could facilitate to the improvement of the quality of education (also thanks to ENQA’s capacity building support), the acceptance at the international level of diplomas issued by Georgian universities, as well as the attraction of international students and scholars. In this sense, the improvement of quality assurance practices and the acceleration of the internationalization process of the Georgian higher education system go hand in hand. Another step in this direction is the pursuit by EQE of the recognition by the World Federation of Medical Education (WFME), directly linked to the recognition of the Georgian graduate medical education in the United States and in other countries starting from the year 2023.

First, among the challenges to conducting and improving the Accreditation and Authorization Processes cited by EQE and other stakeholders is the scarcity of qualified experts (national and international) available to participate to the process, which makes the process quite complex and, sometimes, problematic (especially when potential experts end up teaching in several universities under screening). After the 2016 reform, EQE replaced completely local experts with others whose profiles were better fitting the new criteria. This, however, increased the scarcity of qualified experts in several fields. This explains why currently the main role (and focus) of EQE is to build the capacity of national experts, by having them work next to international experts (which, however, requires them knowing well a foreign language). The task EQE is facing is daunting: during this academic year EQE is planning to evaluate 26 universities, delivering 650 programs, among which 150 are Ph.D., English language and regulated programs (law, medicine), for which the participation of international experts to the evaluation process is mandatory (and HEIs must bear the cost of their participation, while EQE pays for the cost of translation of the documents produced by the universities)²³. Also representatives of students and employers are now participating

²³ The program “Study in Georgia” is currently helping EQE by contributing to cover the costs associated with the hiring of international experts participating to the evaluation, institutional and capacity building process.

to selection committees. According to EQE, representatives of employers are those needing more support to build their capacity.

Another challenge highlighted by EQE is the lack of a comprehensive analysis of the Georgian labor market and its functioning, which could contribute to the definition of more targeted initiatives and to improvements in the outcomes of the HES.

As a final note, the evaluation following the renewed authorization system started in December and seems to be already having an impact. At the current stage 3 institutions have been shut down, 2 have closed, 2 have reshaped in VET.

4.2 Funding

The availability of funds determines the extent to which higher education institutions can tackle most of the issues associated with the above-mentioned challenges.

However, higher education funding is in itself a problematic issue, especially for public universities. Currently, government funding comes almost entirely in the form of tuition grants to individual students covering at most the cost of the tuition fee in public universities (tuition fees in public universities are capped at 2,250 GEL – less than 1,000 USD – per student). As public universities cannot raise the tuition amount above the government grant cap (even for programs whose delivery costs are higher) and dispose of little to no other funding sources, the only way for them to increase revenues is to attract as many students as possible. To complicate matters, revenues of public universities in excess of government grants to students are taxed, while they are not for private universities.

In this context, financing of infrastructure (e.g. laboratories) becomes quite complex, as revenues from student fees are potentially highly volatile and do not constitute, therefore, the best source of funding for assets requiring long-term commitments. This not only makes it harder to deliver high quality education in fields where (for example) laboratory practice is important, but also hampers efforts to conduct high-level research. According to the strategy document developed by the GoG, the voucher system causes “forms of unhealthy management systems, fails to ensure accessibility and does not create the possibility of improving teaching and research quality, stability necessary for institutional development” (Government of Georgia, 2017).

4.2.1 Funding and student incentives

As we have seen in section 3, the number of students enrolling in higher education institutions has been steadily increasing over the years. This is partially the consequence of the incentives of universities to open up more slots in order to try increasing their tuition revenues. However, the fact that these slots are filled indicated a large demand for higher education among the young.

It has been argued that students (including the weaker ones) may be irrationally choosing to continue their studies, pushed potentially by a combination of desire for recognition, fear of the stigma associated with not having a university degree, and a skewed (and ill-informed) view of the available labor market opportunities. Understanding the drivers of this trend is of paramount importance if one wants to design effective and efficient education policies.

While it is true that educational choices may be driven by some irrational component, young generations have also other - practical - reasons to choose higher education. Above, for example, we have shown that, indeed, the labor market performance of the latest cohorts of higher education graduates (while not impressive) looks significantly better than that for other educational groups, with university graduates enjoying (overall) higher participation and employment rates as well as higher salaries. Another reason for continuing to study at the university level may be financial. The choice of the government of Georgia to grant full tuition waivers for BA programs in several “priority areas” has de facto reduced significantly the cost of attending higher education for the weakest students who managed to pass the selection test but would not have received any (or would have received a very limited) government support. It is also understood that in some cases male students see enrollment in universities as a

way to circumvent the national military service requirement. The fact that the government grant is not conditioned to any minimum performance means that students can afford to continue their studies even when they do not actually study or are not ready to engage successfully in higher education, with potentially negative effects for the general learning environment and on the average quality of the graduating classes. Despite the rising awareness about the inefficiencies associated with the provision of this type of grants, free slots” for “priority programs” (e.g. engineering) not linked to merit are now difficult to remove as they constitute an important and not easily replaceable source of revenues for universities. Several stakeholders extended the criticism also to the standard government grants, pointing out that the absence of conditionality (requiring the student, for example, to achieve a minimum level of performance to maintain the grant) may be one of the causes of the declining academic performance (over time) of students receiving a government grant.

Education choices also depend on the tradeoffs among the available alternatives. These depend on labor market trends, alternative educational choices available and, not less important, the possibility to remain flexible (and employable), in a rapidly changing environment. To make an example, while – potentially – vocational training can provide more interesting and rewarding employment opportunities to less academically minded individuals, as long as the vocational training is perceived as low-quality and excessively narrow, it will be difficult to convince both employers to hire and to pay a premium for individuals who received such trainings and even more to convince potential students to enroll in such programs. Last but not least, quality of educational decisions crucially depends from the availability of reliable and up-to-date information about the existing educational opportunities and their labor market perspectives.

4.2.1 Funding and incentives for universities

As we already mentioned, currently universities appear to adapt slowly their programs to socio-economic changes. This is in great part associated with the type of incentives they face.

A very important factor affecting university strategies is funding. Currently funding comes mainly from tuition fees. As long as this is the case, and as long as students are willing to enroll, universities are encouraged to maximize their revenues by setting very low admission standards and not implementing a rigorous screening during the course of studies. Moreover, given that the state grant cap is fixed regardless of the costs associated with the delivery of the program, universities are encouraged to develop the least costly (thus more profitable) programs to the disadvantage of other programs that, while potentially more needed, would lead to losses. The introduction of full funding for priority areas, born with the idea of encouraging the development of a significant number of needed professional figures in these areas, did not manage to significantly improve the situation as it did not really force any change in teaching practices and failed to attract the best candidates. Overall, the current financing setup seems to minimize the universities’ incentives to reform by making them less responsive to feedbacks from more motivated students and potential employers and less likely to engage in research activities. This point of view is shared by several stakeholders, particularly businesses and employers’ associations.

Disincentive effects are even stronger for public universities than for private ones, as they cannot raise their tuition fees above 2,250 GEL and their excess revenues are taxed.

4.3 Research and innovation

4.3.1 Quality of research

A higher education system can contribute to the development of the country not only through the advanced education it provides to the country’s workforce, but also through the research activities it performs. Moreover, research and teaching at high levels are crucially intertwined, with research activities constituting a crucial component in the education of Master and Ph.D. students, who will then constitute the future recruitment pool for higher education institutions’ academic and administrative staff. Therefore, another clear challenge for the higher education sector is to develop a systematic approach to research.

Below we explore the existing evidence about the international standing of Georgian Universities, looking at a set of rankings freely accessible online and comparing the performance of Georgian Universities both with that of universities located in other transition and post-transition countries²⁴ and with the rest of the world.

Table 16. Ranking of Georgian universities: various indicators

Excellence Webometrics ²⁵	5 universities out of 63 universities from the 14 countries selected. Georgian universities ranked respectively 3 rd , 11 th , 19 th , 31 st , 49 th . Their positions in the world ranking are: 912, 1886, 2807, 3718, 4703 out of 5789
Openness Webometrics ²⁶	5 universities out of 63 universities from the 14 countries selected. Georgian universities ranked respectively 9 th , 19 th , 37 th , 42 st , 55 th (ex-aequo). Their positions in the world ranking are: 1765, 2778, 5498, 6568, 9491 out of 9491
US News Best Global Universities ²⁷	1 university out of 9 universities from the 14 countries selected. The university ranked 1 st . The work rank of this university was 359 out of 1,250 universities (Physics only subject listed, ranking 257 out of 600)
Scimago ²⁸ 2011	1 university out of 23 universities from the 14 countries selected. The universities ranked 19 th . Its world rank was 816 out of 2,483 ranked institutions
Scimago 2017	3 universities out of 30 universities from the 14 countries selected. Georgian universities ranked respectively 12 th , 17 th and 29 th . Their positions in the world ranking are: 656, 670, 693 out of 2,966 ranked institutions

Sources: Webometrics, USNews, Scimago. Last accessed on February 13, 2018

The analysis of table 16 shows that, research wise, some Georgian Universities are achieving results comparable to those of universities in other transition and post-transition countries (possibly even better than could be expected, given the still existing differences in GDP per capita). However, only 1 university out of 35 appear consistently in the selected international rankings and only two rank consistently in the top 30% universities worldwide. This indicates that the large majority of Georgian universities are quite weak in terms of research outputs. This, in the long run, can constitute a limiting factor for the development perspectives of the Georgian economy.

The mixed research performance of Georgian universities is certainly linked to the limited emphasis research outcomes have received in the recent past within most HEIs. Out of the 58 university lecturers, we managed to contact with an online survey, less than half receive any form of support for research from their institution, and 40% state that research and teaching are not linked in their institution. Still, more than 80% of them declares being engaged to some extent in research (sometimes with other academic institutions). Considering how important having a research-active faculty is for the universities to be able to deliver high value-added courses in line with the best world practices, to help build future Georgian researchers, and to contribute to the development and the spreading of innovation, it is clear that this challenge must be addressed as well.

In order to stimulate universities to invest more resources in developing their research capacity, accreditation criteria have been recently modified and now include research output requirements for universities. However, in the opinion of most stakeholders, this initiative is unlikely to achieve the desired outcomes, as university is still mostly coming through tuitions. To complicate matters, it is not clear that, in the current system the limited funds available to fund research activities are necessarily going to fund institutions with the best research outcomes. Therefore, it appears evident that the reform of the higher education sector should include a rethinking of the incentives to perform academic research.

²⁴ Our reference group includes 13 countries: Albania, Armenia, Azerbaijan, Belarus, Bosnia-i-Herzegovina, Bulgaria, Macedonia (FYR), Moldova, Montenegro, Serbia, Turkmenistan, Ukraine, Uzbekistan.

²⁵ Number of papers amongst the top 10% most cited in 26 disciplines. Data for the five-year period (2011-2015) / Source SCImago.

²⁶ Number of citations from Top authors according to the source / Source: Google Scholar.

²⁷ The overall Best Global Universities rankings is based on 13 indicators that measure academic research performance as well as global and regional reputations. It encompasses the top 1,250 institutions spread across 74 countries.

²⁸ The SCImago Institutions Ranking is classification of academic and research-related institutions ranked by a composite indicator that combines three different sets of indicators based on research performance, innovation outputs and societal impact measured by their web visibility.

4.4 Governance

The governance of the HES and of the Georgian Research System (RS) sees at the top the GoG, which decides about the budget of the MES and its allocation (e.g. decisions about the number of tuition grants and their amounts, decisions about funding for research, etc.). The Ministry of Education and Science, instead, provides the strategic leadership to the Georgian Educational and Research System, approves the bylaws relative to public universities and manages its funds to maximize the impact of the educational system on the society.

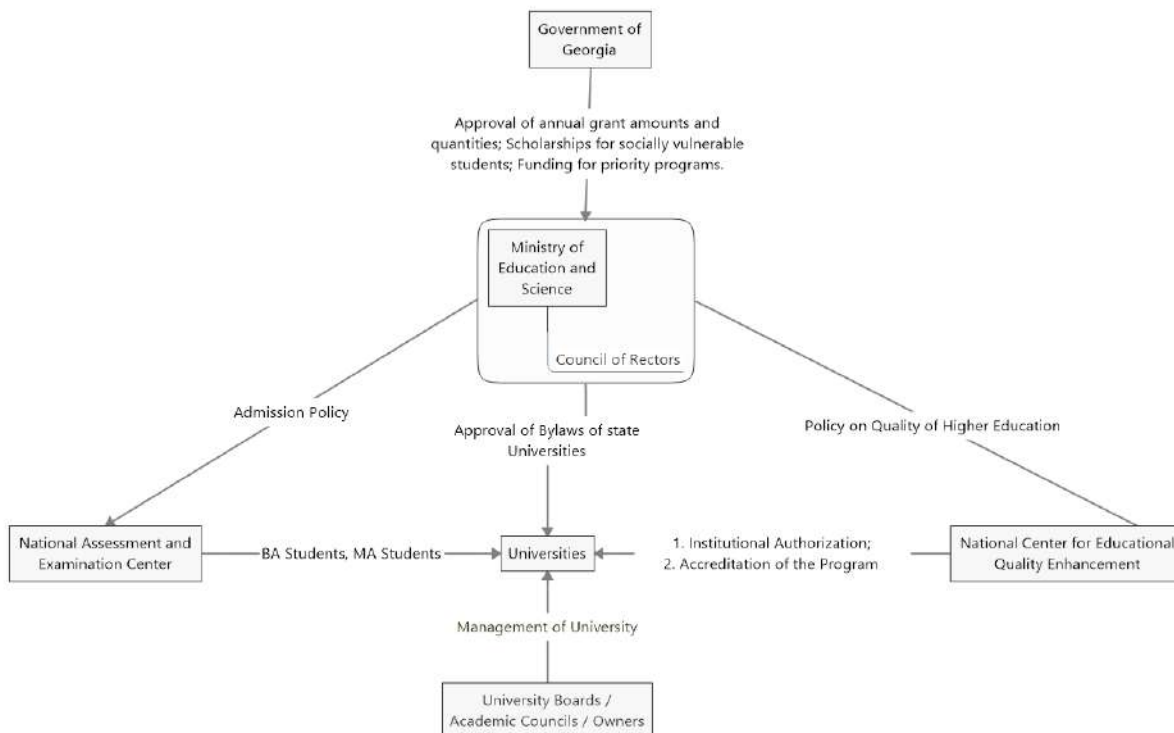
For practical purposes we will be discussing separately the education component and the research component.

4.4.1 Governance structure - Education

In Figure 10 is a representation of the governance structure of the education segment. The MES relies on the NAEC to improve the quality of education through valid, fair, and reliable assessment and research of achievement and competencies, from school exams to certification tests for public servants. One of the most crucial activities of NAEC is the management of the large scale, high-stakes exams granting the passage from secondary to tertiary education. Another crucial support Center for the MES is the EQE, whose main responsibility is the assurance and control of the quality of the HES, to which EQE contributes by managing the process of authorization of HEIs and of the accreditation of their programs. As a consequence of the 2016 reform EQE has shifted from input-based to an outcome-based/demand-led approach in which employers' feedback can contribute to the development of curricula. Relevance of programs is now one of the criteria adopted by the quality assurance system to assess the quality of Higher Education Institutions (HEIs).

The Council of Rectors (CR), which includes representatives of all public universities and of the larger private universities, completes the picture. It acts as a consultative body and is involved in the discussion of all proposals for change of the HES.

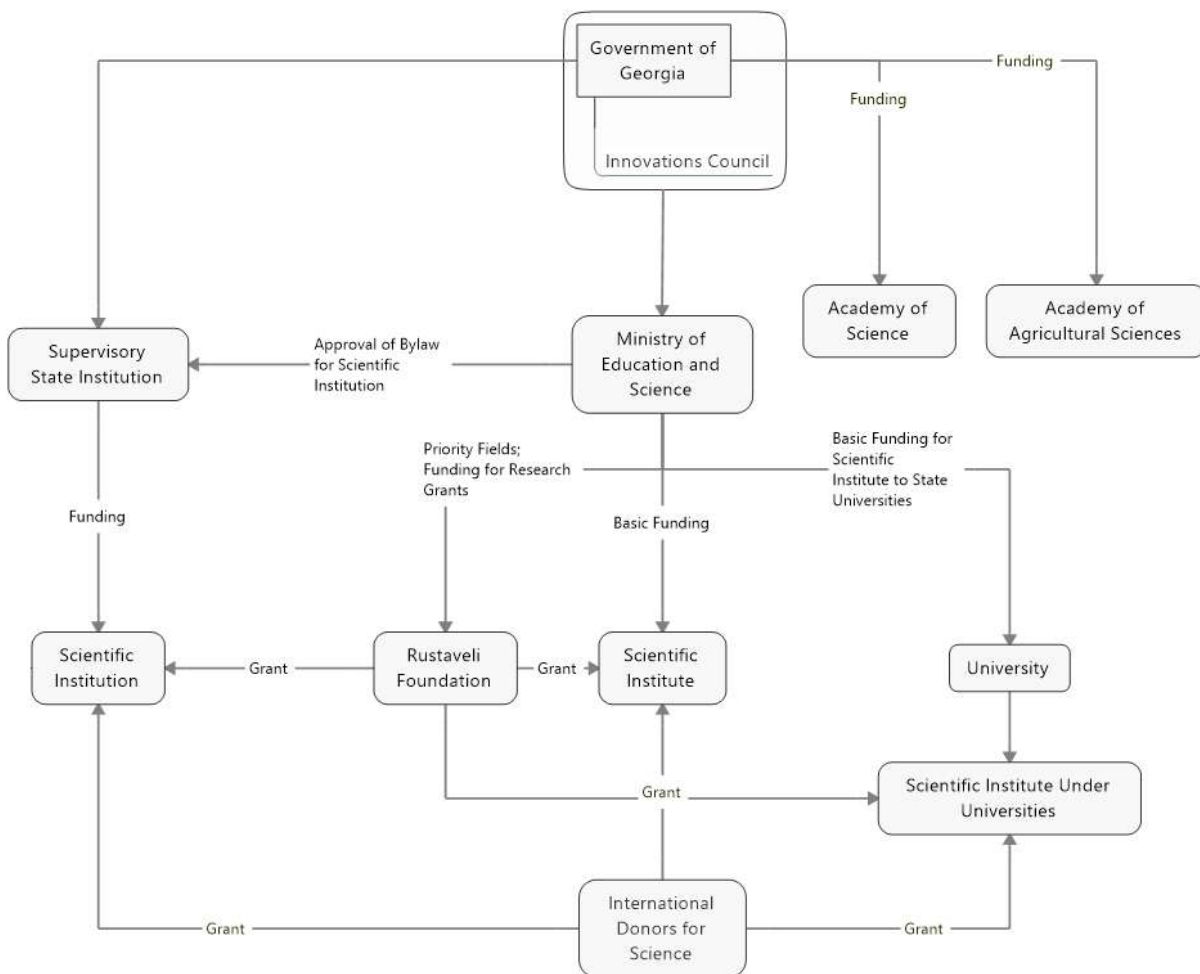
Figure 10. Governance structure - Education



4.4.2 Governance structure - Research

The MES supervises most of the research activities in the country, implementing the research strategies discussed at the governmental level, within the Council for Innovation and Research (CIR). The CIR is headed by the Prime Minister and includes several other ministers and deputy ministers, representatives of the parliament, of the business sector, of the Academy of Sciences and other scientists. Due to the high level of its members, the CIR typically meets rarely, to discuss particularly broad issues beyond the immediate responsibility of any specific ministry.

Figure 11. Governance structure - Research



The structure of the Georgian RS is quite complex and overlaps greatly with that of the HES. Unsurprisingly, a central role is played by the MES, which distributes grants both on a competitive basis (with the support of the Shota Rustaveli National Scientific Foundation – SRNSF) and through noncompetitive grants benefiting the Scientific Institutes historically composing the Georgian Academy of Science (now mostly incorporated in Universities).

The transparency, the efficiency and the relevance of the system relies mostly on the operations of the Rustaveli Foundation and its international supervisory board. The international supervisory board of the SRNSF advises on policy-level challenges and decides the Foundation’s strategic direction, ensuring coherence with national strategies. The supervisory board includes the Minister and Deputy Minister of MES. The Minister appoints the members of the board, which currently include international experts and representatives of the business community. The SRNSF issues competitive grants in all scientific fields and funds/promotes both projects and programs requested by MES and/or based on joint agreements with other countries and/or international organizations. The SRNSF is currently working to the realization of a comprehensive database collecting information

about active researchers operating in Georgia, which could be used in the future as the basis for the assessment of research productivity. Many efforts (and funds) are concentrated on the professional development of young researchers, with specific projects targeting Post-docs, Ph.D. students, MA students (to which soon will be added BA students).

The mechanism for the institutional-level funding of research activities of Universities providing evidence of aggregate high research productivity and research potential is still missing. Currently, individual researchers apply for funding of their own research projects.

4.4.3 Support to good governance

While the governance structure of the Georgian HE and research systems do not present major weaknesses, there is still a substantial margin for improvement in governance practices.

The introduction of result-based accountability mechanisms in the areas of HE and Science requires the definition of relevant performance indicators agreed upon among key stakeholders, tracked by individual institutions and verified by independent agencies. While this has been done (or is being done) in several areas, the process is far from completed. Data collection and management practices must be improved to ensure a greater availability and accessibility of high quality data for qualitative and quantitative analysis. The strategic policy and planning capacity of the MES must still be increased in order to allow the MES develop a long-term evidence-based sector strategy and to support its implementation, monitoring, evaluation, as well as the communication of its achievements.

The clear definition of goals, targets, indicators, responsibilities, and the setup of a fully functioning, monitoring and evaluation system is another crucial step to support more effective policy making.

4.5 Internationalization

The HES has transformed significantly over the past decade. This transformation has been driven by the efforts to integrate within the European Higher Education Area (EHEA) and European Research Area (ERA). In principle, internationalization of Georgian HE can contribute greatly to the development of the country and open many opportunities to Georgian citizens, acquiring access to a much broader labor and educational market.

Most efforts towards greater internationalization rely currently on two main pillars:

- Convergence towards European and international quality standards (mostly the responsibility of EQE - discussed in the quality assurance section);
- The promotion of the international image of Georgia and of its HES among students and scholars, through the activities of the program “Study in Georgia” and the competitive grants of the Rustaveli Foundation.

The program Study in Georgia is a part of the overall strategy of the MES to promote the image of Georgia and of its HES among international students and scholars. The initiative envisages the creation of appropriate infrastructure, facilitation of admission procedures for international students, increasing demand from foreign students for Georgian HEIs, improving Georgian HEI’s international rankings. The government has secured significant funds in 2018 for these purposes (3 mln GEL). Study in Georgia has been funding the hiring of international experts for the evaluation of programs in English, Ph.D. programs and regulated programs, together with the realization of a dedicated website for the presentation of the Georgian educational offer.

Despite the efforts, however, the IT infrastructure is still underdeveloped (e.g. the website is difficult to operate – for example to perform a comprehensive search of the study opportunities in a given field - and does not allow universities to manage their spaces, updating regularly the relevant information), and this complicates and slows down the application process of international students. Some specific hurdles are associated with requirements indicated in the Georgian legislation. For example, the requirement to produce a verified copy of the diploma from the previous cycle of studies to get admissions to Higher Education in Georgia creates difficulties for students

coming from countries where diplomas are delivered years later (who dispose just – for example – of a temporary certificate).

4.6 Access and social inclusion

The issue of unequal access to HE studies – with its equity implications – remains very relevant in the Georgian context. Tables 17-19 summarize the educational divides across genders, rural and urban areas and ethnicities.

In order to highlight the impact of the higher education reform efforts that took place after 2005, when Georgia joined the Bologna process, we present results separately for the age groups 25-34 (after the reform) and 35-49 (before the reform).

Before the reform, Bachelor degrees did not exist in the Georgian system, with the only existing degree being considered equivalent to a Master’s degree. This is the reason of the great difference between the share of individuals reporting to have achieved a bachelor or equivalent in the age group 25-34 (19.5%) and the same share for individuals aged 35-49 (2.3%). Overall, our data confirm that an increasing share of Georgians chooses to continue their studies in higher education institutions (37.2% for the age group 25-34 vs. 33.1% for the age group 35-49). Looking at the gender dimensions, women appear to be historically more likely to continue their studies into higher education, with the total gender gap amounting to about 8% for both age groups.

Table 17. Aggregate levels of education by sex, different age groups 25-34 and 35-49 (%), 2016

	Age 25-34			Age 35-49		
	Female	Male	Total	Female	Male	Total
Less than basic and basic ²⁹	4.6	6.6	5.7	5.0	4.5	4.8
Intermediate ³⁰	37.4	52.3	45.3	39.0	56.8	47.4
Advanced -upper secondary program and higher professional program	16.9	7.3	11.8	19.3	9.6	14.7
Advanced -bachelor or equivalent	21.1	18.0	19.5	2.0	2.6	2.3
Advanced -master or equivalent, doctor or equivalent	19.9	15.7	17.7	34.7	26.5	30.8

Source: IHS, 2016

Note: Aggregate levels of education are based on ISCED-11

Educational choices appear to be significantly different in rural and urban areas (table 18) and across ethnicities (table 19). In rural areas individuals are substantially less likely to go for a Bachelor Degree and even less to go for a Master’s degree or a Doctoral degree. This trend is consistent across cohorts, with a lower probability for rural students to continue their studies beyond the Bachelor level.

²⁹ Includes: illiterate, does not have primary education but can read and write, pre-primary education, primary education, lower secondary education.

³⁰ Includes: upper secondary education and vocational program.

Table 18. Aggregate levels of education by settlement type, 25-34 and 35-49 (%), 2016

	Age 25-34			Age 35-49		
	Urban	Rural	Total	Urban	Rural	Total
Less than basic and basic ³¹	1.5	8.8	5.7	2.3	6.5	4.8
Intermediate ³²	32.2	55.2	45.3	31.5	58.3	47.4
Advanced -upper secondary program and higher professional program	12.1	11.7	11.8	14.1	15.2	14.7
Advanced -bachelor or equivalent	25.2	15.1	19.5	3.1	1.8	2.3
Advanced -master or equivalent, doctor or equivalent	29.0	9.2	17.7	49.1	18.3	30.8

Source: IHS, 2016

Note: Aggregate levels of education are based on ISCED-11

Along the ethnic dimension, Georgians appear to be substantially more likely to engage in higher education, advanced upper secondary programs and higher professional programs than non-ethnic Georgians in both age groups.

Table 19. Aggregate levels of education by ethnicity, 25-34 and 35-49 (%), 2016.

	Age 25-34			Age 35-49		
	Georgian	Non-Georgian	Total	Georgian	Non-Georgian	Total
Less than basic and basic ³³	4.5	12.5	5.7	3.2	15.1	4.8
Intermediate ^{**34}	41.8	65.0	45.3	45.0	63.9	47.4
Advanced -upper secondary program and higher professional program	12.6	7.5	11.8	15.5	9.2	14.7
Advanced -bachelor or equivalent	22.3	3.8	19.5	2.5	0.8	2.3
Advanced -master or equivalent, doctor or equivalent	18.8	11.3	17.7	33.8	10.9	30.8

Source: IHS, 2016

Note: Aggregate levels of education are based on ISCED-11

Providing access to quality education to all Georgian citizens is a priority of the GoG. The evidence provided in the previous tables shows that this is not a factor to be taken for granted. Individuals living in rural areas and non-Georgians are much less likely to have a higher education degree. This puts them at a disadvantage in the labor market, as we have seen that having a higher education diploma is associated with higher labor market participation, employment rates and salaries.

The root causes of this trend are several and cannot be necessarily all addressed in this paper. However, our discussions with the stakeholders have highlighted, among others, the large variability in the quality of general education, the scarcity of sources of financing for higher education studies and the current mechanism for the allocation of these limited funds.

³¹ Includes: illiterate, does not have primary education but can read and write, pre-primary education, primary education, lower secondary education.

³² Includes: upper secondary education and vocational program.

In tables 5 and 6 we can observe, respectively, the labor market performance of individuals of age 25-34 and 35-49, by education level.

³³ Includes: illiterate, does not have primary education but can read and write, pre-primary education, primary education, lower secondary education.

³⁴ Includes: upper secondary education and vocational program.

The current admission system to higher education studies, while formally impartial, implicitly discriminates individuals coming from disadvantaged groups and areas. We can observe a great degree of heterogeneity in general education across Georgia, with students in the capital and in other cities better off in terms of learning and development opportunities. In realities in which the quality of public educations (pre-school, primary and secondary education) is lower, the socio-economic status of parents affects the likelihood of being able to receive an adequate education even more. In general, children of better off families can get better care and be followed by tutors. This makes them more likely to develop greater competences and skills and to pass the National Admission exam to the university (possibly with a higher score, that will lead to a higher government grant)³⁵. This issue is particularly relevant as only a limited number of students each year (about 1,000 students) receives a full grant and a few thousands more receive partial grants.

As students from the disadvantaged segments of the society encounter greater difficulties in ranking high in the admission tests, the support they are likely to receive has lower chances to cover even the full cost of the tuition. The situation for students coming from outside Tbilisi is particularly complex. As the government grant is meant to cover at most the cost of tuition at public universities, even students performing particularly well at the admission test are often discouraged from moving to the capital, where they would incur significant living costs (Chankseliani, 2013). As the largest part of the most reputable higher education institutions is located in Tbilisi, this constitutes an additional element of disadvantage which lowers the long-term earning perspectives of those who cannot afford to move to the capital. In an effort to partially address the situation, over the last years the GoG has been reserving a fraction of the total amount available for student grants to support the enrollment of students from minority schools, remote areas, conflict zones and other disadvantaged groups. This is meant as a need-based support scheme, but it also includes a merit-based component, as the students applying are still ranked according to their test scores. Overall, the Ministry estimates that about 20% of BA grants and 10% of MA grants benefit students from socially vulnerable families. Counting as BA grants also those disbursed within the framework of the “Priority grants program”, which aims at stimulating enrollment in “strategic areas”, the share of funds earmarked for disadvantaged groups amounts, rather, to about 10% (as in the case of MA grants). Given the magnitude of the divide, however, even taking the earmarked funds into account the number of grants disbursed appears to be insufficient to guarantee a proper access to higher education to students from households with limited financial resources. The perception of several stakeholders interviewed is that the limited number of full grant slots and the lack of a well-functioning loan market for promising students with financial constraints contributes significantly to the low enrollment rates observed for disadvantaged groups. In this context, the already existing divide between disadvantaged groups and the rest of the society is bound to increase.

Several stakeholders have pointed out how currently universities, in the absence of a consolidated social inclusion policy, are performing some crucial social functions that are not typically the responsibility of higher education institutions. These functions include, as mentioned above, providing remedial education to the weakest students and encouraging the inclusion of disadvantaged students (e.g. poor, from ethnic minorities, students with special needs, etc.). This diverts resources from other areas and puts university management in front of a clear dilemma when choosing where to channel the university scarce resources.

5. Recommendations

The reform of the Georgian higher education system, promoting its modernization, its internationalization and the development of its quality (while maximizing its inclusivity) has already progressed substantially over the last years, but multiple challenges remain.

Coherently with what has been discussed in this paper, the main directions in which we suggest to move are the following:

³⁵ The unified entrance exam is also the main instrument to determine the amount of support provided by the government to students planning to enroll in higher education. Depending on the results in the unified entrance exam, Georgian students planning to enroll in a BA program can receive a grant covering respectively: the full amount of the tuition fee charged by public universities (currently 2,250 GEL); 70% of the full amount or 50% of the full amount. Students planning to enroll in a MA program instead can receive, always depending on their results in the unified exam, a 2,250 GEL (100%) grant.

1. Increase the quantity and quality of inputs feeding into the system;
2. Modify the existing structure of incentives for students and universities;
3. Design and implement policies for access and social inclusion.

In the upcoming sub-sections we discuss several recommendations, for each of the key system-wide issues identified in section 4. Some of the measures suggested below have been already included in the action plan for the reform of the HES drafted by the MES, but have not been currently implemented and we felt, therefore, the need to re-affirm their relevance.

5.1 Quality and quality assurance

5.1.1 Quality of inputs: students

Students are possibly the most crucial input for any higher education system. If students have developed a good set of cognitive and non-cognitive skills when they reach higher education, the benefits of higher education are magnified. Hopefully the efforts already undertaken by the GoG (or those under way, such as the reform of the pre-service training of school teachers in partnership with UNICEF and Estonian experts) will soon lead to an improvement of the quality of pre-school and general education, closing the gap currently existing between the Georgian students and their international peers. In the meantime, however, it would be important to design and put in place temporary support policies to increase the quality of the student body entering higher education institutions. A systemic approach would allow lifting this burden from individual institutions while at the same time ensuring no student is left behind. This purpose could be achieved by fostering (as suggested by some higher education institutions) a stricter cooperation between higher education providers and secondary schools, leading to a joint assessment of the gaps in secondary education curricula and to the design of coordinated actions to close them, helping secondary school students reaching higher education better prepared. These actions could be sponsored by the government, local communities, international organizations, and involve motivated young university graduates or students in the last years of their university studies, as well as pedagogical experts. Such an approach could potentially provide multiple benefits (more targeted delivery, the provision of more transparent information on educational opportunities coupled with the exposure of children to positive role models, and a possibility for young graduates to experience the involvement in some high impact social program).

Initiatives to increase the readiness of secondary school students should be coupled by a greater screening effort at the end of the secondary education cycle. While students with a better preparation could be allowed to directly access higher education, those showing more gaps in their preparation could be offered a different path (e.g. a one year remedial program, similar to those designed for students coming from ethnic minorities) after which they should have again the opportunity to enter the HES or the VET system.

Another way to improve the quality of the outcomes for the student body in higher education institutions (also in line with the EU agenda for the modernization of Europe's higher education system) is through the adoption of flexible, innovative learning approaches and delivery methods to widen participation to diverse groups of learners (including workers interested in continuing their own education at their own pace), combat drop out and favor social inclusion. In the Georgian context the use of ICTs, for example, could allow reaching more isolated communities.

Finally, help could come from an acceleration of the internationalization process. This is the experience, for example, of the Tbilisi State Medical University, which has been able to grow substantially by recruiting successfully international students. The presence of international students with strong profiles, in addition to allow generating higher revenues for the hosting institution, can provide a stimulating environment for Georgian students who get to interact with them. Of course, this requires the definition of a targeted strategy and the development of programs in foreign languages.

5.1.2 Quality of inputs: lecturers and curricula

Improving the quality of lecturers and curricula in higher education institutions will require a strong commitment from the government side and from HEIs.

A first step could be to design a mechanism to ensure that faculty members who are no longer able to keep up with the development of their respective disciplines and of teaching methods are provided the opportunity to work on and improve their skills (through additional professional training, mentoring, international exchanges). This could be facilitated by the provision of earmarked funds to universities documenting re-qualification needs of their faculty and presenting a clear re-qualification plan. The University should commit (and have the possibility) to ask those offered this opportunity that either choose not to take them or consistently fail to improve, which will open positions to be filled by more dynamic and better prepared lecturers. Obviously, this type of initiative should strike a balance between the need to reform and protection of the autonomy of academic institutions. A mechanism that might help is the definition of a mandatory retirement age, beyond which a professor may remain in the university only if the University decides his/her contribution to be still particularly valuable, based on objective and pre-defined criteria. These initiatives could ideally complement Government plans to identify fields experiencing deficits in academic/pedagogical skills and to develop professional development programs to close the existing gaps.

A second step could be to design ad-hoc instruments to support universities actively pursuing recruitment of high-profile lecturers and researchers. Special funds could be put aside to top-up the salaries of such high-profile hires, under a set of predefined conditions like, for example, conditioning the provision of funds to the adoption of transparent and open procedures compatible with the principles of the European Research Area. Such funds could be provided on a competitive basis, based on the assessment of the development strategy of the applying institutions and of its expected impact. The competition procedure should be designed to involve international experts (as it is already the case for most calls issued by the SRNSF).

An alternative – and promising - way to simultaneously improve the quality of lecturers and curricula could be to actively work to setup private-public partnerships between the universities, the government and the business community. Such partnership could support a broad range of initiatives. Among them:

- The collection of funds to create dedicated chairs in disciplines considered of strategic importance for the development of specific sectors of the economy or for the economy as a whole. Thanks to these partnership, on one hand the universities could gather additional resources to hire skilled lecturers and researchers, while on the other hand the business communities would have a chance to open a dialog with the academic institutions about the development of curricula tailored to provide relevant skills and the exploration of particularly interesting research directions.
- Realization of staff exchanges (particularly between universities operating in research intensive fields) and an increase in the weight of practical experiences in the curricula of students during their studies, designed to foster employability and entrepreneurship.
- Facilitate the monitoring by educational institutions of the career paths of their former students within the partner organizations, which could allow acquiring precious information about the gaps in the existing programs and support efforts to increase their relevance.

A general suggestion, based on the evidence collected by discussing with business representatives and looking at the results of surveys conducted among them, would be to invest in the development of skills in foreign languages, leadership, creative thinking and problem-solving skills. This might help new and higher value-added activities to emerge, creating more and better employment opportunities, and accelerating the structural transformation (and the development) of the Georgian economy.

5.1.3 Quality assurance and the importance of access to information

In order to perform its functions effectively, external quality assurance (performed by EQE) needs to rely on a well-functioning internal (institutional-level) quality control structure, who are in charge of data collection, data

reporting, and preliminary analysis, as well as of contributing to the design and supervising the implementation of necessary corrective measures. For this reason, EQE indicated capacity building of internal quality control structures as an important priority. Efforts by HEIs should be helped by MES through specifically targeted funding, to be used for the recruitment of international staff, curriculum development and infrastructural development.

The possibility to take efficient and effective decisions (whether they must be taken by students or institutions) depends crucially from the quantity and quality of information available.

The capacity of the relevant entities such as MES and EQE of collecting and analyzing relevant data (about HEI's quality, labor market demand and supply of HE graduates in different fields, etc.) and of disseminating the relevant information should be strengthened. When data analysis requires higher levels of expertise in specific areas (e.g. labor market analysis), these institutions should have the possibility to establish cooperation agreements with external entities and to outsource the analysis of existing data, previous agreement about the rules for handling quality data.

The results of the analyses should be easily accessible, always up-to-date, detailed, clear and transparent, with a clear explanation of the methodologies employed.

Ultimately, the information provided by quality control institutions will allow students, families, businesses and the government to make better informed choices and will incentivize universities to exert a greater effort to excel, delivering better teaching and research outcomes. In addition, the availability of transparent and objective information about the performance of the Georgian higher education sector, in compliance with the ENQA standards, will facilitate its internationalization and increase its attractiveness for international students, potentially generating a relevant inflow of financial resources and contributing to the modernization and the development of the system.

5.2 Funding

In addition to human and intellectual resources, any successful reform effort requires the mobilization of an adequate amount of financial resources. Also in the Georgian case, expanding the funding base for the higher education sector is a clear necessity. Currently the system is facing serious financial constraints which hamper its ability to progress in the directions indicated by the strategy of the GoG. Besides the already mentioned difficulties in recruiting new (high-level) lecturers and researchers, as well as supporting the requalification of the existing faculty, in absence of adequate funding universities can be expected to continue experiences difficulties in:

- Creating, or simply running, modern and well-equipped laboratories, which are crucial for research and training activities;
- Providing adequate incentives to researchers and lecturers;
- Providing adequate services and studying conditions to students.

At a broader level, investments are also required to develop good quality, modern study materials in the Georgian language for many subjects.

Education expenditure relative to GDP remains low in Georgia, relative to most of FSU and CEE countries. This is even more true for HE expenditure. The World Bank in 2013 was suggesting that the amount of public funds to higher education institutions should be reaching the level of 1% of GDP. Today Georgia is still quite far from that goal. Another initiative that would help public HEIs would be the diversification of the sources of funding away from current one focused on (capped)tuition fee/state grant. This should be coupled with a broader range of government funding schemes for students and higher education institutions, including – possibly - the development of a market for subsidized loans to fund the studies of promising students and the expansion of need-based support for students belonging to disadvantaged groups. Besides increasing the amount of resources available to academic institutions, such initiatives have the potential to trigger virtuous dynamics by altering the existing incentive structure in a direction more consistent with the long-term goals of the Georgian government strategies.

To increase the level of sustainability of academic operation it is also important that part of the funding is used to attract and/or train professional academic management providing strategic vision and leadership to the institutions, particularly as fundraising activities are concerned, while allowing teachers and researchers academic freedom to concentrate on core tasks.

Finally, the GoG should develop initiatives to stimulate universities to be more actively involved in international cooperation initiatives, to increase the quality of research and teaching and to generate additional funds³⁶. In this sense, the GoG should continue supporting the internationalization effort through its existing initiatives and agencies (EQE, SRNSF, Study in Georgia, Georgian Innovation and Technology Agency (GITA)), emphasizing the systematic analysis and diffusion of information about the available opportunities on the international arena (e.g. from Horizon 2020 initiatives), promoting the formation of a national and international network facilitating partnership among universities, private sector actors and international partners.

5.2.1 Modifying the existing structure of incentives for students and universities

As we have already discussed, no reform can work properly unless an adequate amount of physical, human, intellectual and financial resources are mobilized. However, the mobilization of an adequate amount of resources is just one of the conditions necessary to the realization of effective and efficiency-increasing reforms.

Another crucial element is the realization of a structure of incentives promoting virtuous behaviors, coherent with the strategic goals of the reform and discouraging counterproductive actions.

In the previous section we have identified and highlighted a number of instances in which the incentive structure faced by the actors of the Georgian higher education sector could be streamlined and rationalized.

The main directions along which to operate are the following:

- Changing the financial incentives faced by students and higher education institutions;
- Reform of quality control practices, with a greater emphasis on collection, analysis and dissemination of relevant information among relevant stakeholders.

As we have seen in the previous section, the current (mostly tuition-based) funding scheme of higher education is characterized by a number of undesirable features:

- Linking government support to the intake of students, incentivizes universities to lower their entry requirements in order to attract more funding while minimizing costs of delivery;
- In particular, the fact that the amount of the government grant is fixed regardless of the program in which the student wants to be enrolled pushes universities to promote less costly programs, which have greater margins for profit but are not necessarily those more necessary from a systemic perspective;
- The heavy reliance on tuition-based revenues not linked to performance contributes to reduce the incentives of universities to engage actively in internal restructuring. It also makes universities less open to dialog with the business community – especially concerning the development of programs more relevant to the needs of the of the economy – in exchange for additional funding;
- Does not encourage universities to engage in research activities and does not reward those who do. The introduction of increased “research requirements” in absence of consistent financial incentives is unlikely to deliver significant results;
- Incentivizes the recruitment and the stay of low-motivated and poor-performing students and does not reward highly-motivated and high-performing ones;
- Does not properly incentivize students to base their educational choices on personal interest and/or labor market opportunities they may provide.

³⁶ An important step in this direction would be the removal of the asymmetry in the fiscal treatment of excess revenues between public and private universities.

An important step would be to channel the increased government funding in two directions, utilizing the available resources not only to fund educational activities but also research activities. In both areas, the flow of funds towards higher education institutions should be linked strictly to performance, as measured by EQE's new performance evaluation criteria (for quality of education) and on criteria yet to be fully defined concerning the quality and productivity of research (that could be based on the SRNSF platform). To maximize the impact of the reform it is important that these measures are clearly defined and advertised among all relevant stakeholders, particularly academic institutions, GoG, business community, and students. Relevant measures and indicators should be defined, developed and monitored regularly. Particular attention should be paid to the measurement of the outcomes of Ph.D. programs, as Ph.D. graduates constitute potentially the future generation of lecturers and researchers. This is why, the quality of Ph.D. programs should be included in the criteria for fund allocations to (research) universities. Until recently Ph.D. diplomas were granted by faculties autonomously. More recently, however, Ph.D. programs have been put under a more intense scrutiny from EQE, which has systematically involved international experts in their evaluation process. This quality check system could be strengthened with the inclusion in thesis defense committees of external experts (possibly including international experts – like those already involved in the evaluation of Ph.D. programs) in the relevant discipline. This reform could be made more effective by requiring Ph.D. theses to be produced both in Georgian and English (or directly in English, as it happens already frequently worldwide) and by involving more frequently scholars from the Georgian diaspora.

At the same time, the total amount of resources available for government educational grants should be increased and better targeted. In order to provide students with the proper incentives to invest time and effort in their education (and to minimize inefficiencies), the provision of government grants should be linked to student's performance, setting minimum acceptable thresholds below which government grants could be revoked (thereby freeing some financial resources and reducing the waste of public money). This is currently not done mostly for fear that it will lead to "grade inflation" or to other negative side-effects as universities attempt to retain as many students (and grants) as possible. Therefore, at this stage, the only "sanction" that the student receives is that the grant ceases to be paid at the end of the official cycle of studies, regardless of whether the student completed it. This, however, means that a BA student will continue to receive its grant over four years even in case of very poor performance. Given the limited amount of funds available, there is clearly a strong case for a tightening of the rules. A possible, albeit potentially controversial, solution could be to devise a national exam after the first two years of BA studies, designed to assess the skills and competences acquired by studies. The results could be used both to reassess the level of tuition grant paid to the student and as evidence of "educational outcomes" associated with the program and with the HEI in which the students are enrolled.

Grants for "priority areas" are also highly problematic. The discussion with several stakeholders highlighted that in some instances, the provision of these grants – whose total amount exceeded 50% of the grants provided to all BA applicants in the year 2017/2018 – led to the enrollment in these "priority areas" of a large number of relatively weak students who had not qualified for grants (or would have qualified for lower coverage), with negative effects on the quality of the programs themselves. It would be important to be clear about the target of the initiative and to structure it so to minimize unintended effects. If, for example, the idea is to attract stronger students in strategic areas, the government could design better targeted incentive measures such as additional stipends based on successful performance during the course of studies. The money saved should be redirected towards better performing students and students from disadvantaged groups. In the case of public universities, it would be worth considering to complement the (capped) tuition revenues with additional transfers distributed on a competitive basis on the basis of excellence in teaching (by field). This system would provide a strong incentive towards improving the quality of education programs.

5.3 Research and innovation

Despite the impressive achievements of the SRNSF and the initiatives put in place by GITA, there are still aspects that could be improved in the way the research and innovation system is supported.

For example, in addition to the issuing of competitive calls to which researchers and/or institutions must apply, it would be worth considering the periodical attribution of research grants to the best performing institutions and

researchers (ranked over a predefined period of time), chosen on the basis of clear and transparent criteria selected through a participatory approach analogous to that suggested for the education funding scheme (following the strategic guidance of the CIR). These funds could be provided to the individual researchers and/or to their departments for a certain number or years, until the next evaluation. The award should provide “unconditional core funds” and be sufficient to allow researchers more freedom and resources to pursue their own research interests and institutions/departments to strengthen the research profile of the institution (by improving infrastructure, offering more competitive remuneration packages to international level researchers, etc.). The research quality assessment should be performed by independent research committees, ideally staffed by the best country experts and by international experts (similarly to what already happens when EQE and SRNSF assess quality of education and research).

5.4 Governance

As highlighted in the corresponding subsection of section 4, the governance of HE and Science systems is now organized according to a quite logical and functional structure, with the involvement in the main governing bodies of representatives of HEIs, GoG and businesses, joined in some instances by representatives of other stakeholder groups such as students.

The main weakness in terms of governance seems to remain the limited capacity to collect, manage, share and analyze relevant data, crucial to define strategies, monitor them and evaluate their effectiveness. Developing the strategic management capacity of the MES remains, therefore, one of the priorities to ensure the highest possible level of quality in policy-making in these spheres.

5.5 Continued efforts towards greater internationalization

As discussed in the previous sections, Georgia has been vigorously pursuing policies fostering internationalization of the HE and research systems and is already reaping (or is about to reap) significant returns in terms of access to the ERA and EHEA. The synergetic efforts of the actions of SRNSF and EQE are shaping the way Georgian HE and research systems operate, strengthening incentives to deliver higher quality education and to perform international level research. Building on these improvements, the Study in Georgia program has been successfully promoting the Georgian HES among international students, with the number of international students choosing to study in Georgia seeing a 5-fold growth over the last seven years.

Internationalization of HES (full integration in EHEA and ERA, establishment of international research and educational programs, etc.) may provide many opportunities:

- Increased attractiveness of Georgian HES for international students and scholars:
 - Improvement in the quality of the pool of students and lecturers
 - Greater funding opportunities [tuition fees (international students) and grants (for research and teaching programs)]
- More opportunities for Georgian students to continue studies abroad.
- Greater international visibility of:
 - Georgian HES
 - Georgian HEIs
 - Georgian researchers.

The internationalization process would benefit from a rationalization of the funding of the HE and research systems, with a continued – but better targeted – support to the high-quality education and research initiatives in the country.

In terms of recruitment of international students and scholars, there are ample margins for improvement in the way the Study in Georgia program, Georgian HEIs and the rest of the HES cooperate, striking a balance between autonomy - particularly in the definition of personalized content for the common platform - and coordination (e.g.

the realization of a joint IT infrastructure for diffusion of relevant information – e.g. study and work opportunities – and centralized application platform).

5.6 Design and implement policies for access and social inclusion

This reform can be expected to cause significant changes in the structure and in the functioning of the higher education system, forcing it to become more competitive and effective. One crucial issue that should not be overlooked, however, is how the higher education reform is likely to affect disadvantaged students.

As far as the reform creates a more competitive environment, its realization must be accompanied by explicit provisions designed to facilitate the access of the most disadvantaged groups (poor, rural, ethnical minorities, disabled, etc.) to higher education. The amount of resources available for these purposes – already insufficient – should, therefore, be substantially increased beyond the current limits while, in order to contain the costs for the public budget, a better targeting system of the other tuition grant funds – with a downsizing and a re-orientation of funds for “priority areas” – should be designed.

Among the potential inclusion measures that could be adopted, possibly the most relevant is an increase in the number of government grants for students from disadvantaged areas and the provision of additional resources to cover living costs associated with moving to the capital, as long as their performance remains above an acceptable threshold. This would potentially contribute to reduce the number of good students forfeiting better educational opportunities due to financial constraints. To strengthen this effect, and to motivate qualified students from disadvantaged groups to pursue higher education studies, government funding could even provide stipends to students with weaker socio-economic backgrounds performing exceptionally well in the course of their academic career.

Given the seriousness of the challenge, it is of paramount importance that the MES develops a clear and detailed social inclusion policy for improving access and equity (standards, targets, measures and tools) across all educational areas, organizing at the same time an appropriate monitoring and evaluation system, to facilitate the identification of constraints and bottlenecks and the identification of more effective policies.

Other initiatives that might help the inclusion of disadvantaged groups are:

- The elimination of dead-ends characterizing vocational training programs, making it possible for VET graduates to compete for university admissions³⁷;
- An explicit introduction in the legislation of the requirement for public universities to offer flexible study programs (and tuition payments) for working-students;
- Explicit introduction of clear procedures for recognizing learning and experience gained inside and outside formal education and training.

These changes are consistent with the approach suggested by the European Union to develop clear progression routes from vocational and other educational types into higher education. Ideally, this can be achieved through the implementation of national qualification frameworks linked to the European Qualifications Framework. This type of approach requires the definition of clear procedures for recognizing learning and experience gained inside and outside formal education and training and the modification of VET programs to incorporate a greater general education component.

5.7 An interesting concept: the knowledge triangle

In conclusion, an interesting concept that is at the core of the agenda for the modernization of Europe’s higher education systems is the “knowledge triangle”, which should probably be kept in mind when formulating the higher education reform.

³⁷ This would require adding general content to VET courses and improve VET graduates’ chances in case they need to look for a job different from the one they studied for.

In the words of the European Commission, “the contribution of higher education to jobs and growth, and its international attractiveness, can be enhanced through close, effective links between education, research and business – the three sides of the ‘knowledge triangle’.”

This concept summarizes the most recent worldwide trends towards open innovation resulting in increased flows of knowledge and new types of co-operation between education institutions, research organizations and businesses. The impact of the knowledge triangle on a society can be enhanced by the adoption of public policies encouraging partnerships between professional institutions, research universities, business and high-tech centers.

Increasing the capacity of higher education institutions to take part to this process, to transfer research results and innovative practices into their educational offer, and to exploit the potential for marketable products and services can potentially become a powerful driver for excellence and national development.

The Georgian HES seems to have started to move in this direction. It is of extreme importance that the reform process does not lose its momentum.

6. Suggestive implementation timeline

Key Recommendations	Time to introduce	Time to impact	Proposed Policy Intervention
1. Quality and quality assurance			
Quality of inputs: students (1)	Short	Short	Temporary support policies (1): joint assessment [general education institutions and HEIs] of gaps curricula and design of coordinated actions to close them (e.g. temporary involvement of young graduates as support teachers/role models).
Quality of inputs: students (2)	Short	Short	Temporary support policies (2): greater screening at the end of secondary education cycle, with one-year remedial program for those not passing the (raised) thresholds
Quality of inputs: students (3)	Short	Medium	Adoption of flexible, innovative learning approaches and delivery methods at all levels of education. Would stimulate participation of diverse groups of learners, continuing their education at their own pace.
Quality of inputs: lecturers and curricula (1)	Short	Medium	Re-training/re-qualification of lecturers and general professional development programs coupled with expulsion of those who fail to achieve minimum standards.
Quality of inputs: lecturers and curricula (2)	Short	Medium	Definition of financial instruments to support universities actively pursuing recruitment of high-profile lecturers and researchers.
Quality of inputs: lecturers and curricula (3)	Medium	Medium	Creation of dedicated chairs in disciplines considered of strategic importance, funded via private-public partnerships.
Quality of inputs: lecturers and curricula (4)	Medium	Medium	Realization of staff exchanges and increase of weight of practical experiences in the curricula of students during their studies.
Quality of inputs: lecturers and curricula (5)	Medium	Medium	Facilitate the monitoring of the career paths of former students within partner organizations, to acquire information about gaps in existing programs.
Quality assurance and access to information (1)	Short	Medium	Increased funds to support investment in capacity building of internal (institutional-level) quality control structures.
Quality assurance and access to information (2)	Short	Medium	Investment of additional funds to develop data collection, management, analysis and dissemination within MES and EQE.
Quality assurance and access to information (3)	Medium	Medium	Definition of regulations allowing data exchange and outsourcing of data analysis requiring particularly high levels of expertise.
Quality assurance and access to information (3)	Medium	Medium	Definition of regulations allowing the dissemination of data and analysis results among the public.
2. Funding			
Level of funding	Short	Medium	HE funding should be increased up to 1% of GDP
Diversified sources of funding (1)	Medium	Medium	“Performance-related” institutional grants, higher for “excellent” programs and HEIs (objective criteria, re-assessed periodically)
Diversified sources of funding (2)	Medium	Medium	Development of loan markets for students and HEIs, etc.

Initiatives to increase efficiency in fund allocation (1)	Medium	Medium	Introduction of national exams after 2 years of BA studies to assess the performance of students (and adjust the amount of student grants) and programs.
Initiatives to increase efficiency in fund allocation (2)	Short	Medium	Modification of “priority areas” grants, to provide better incentives (i.e. eliminate additional grants but add stipends to attract more good students)
Investment in fundraising capacity building	Medium	Medium	Part of the additional funding should be used also to attract and/or train professional academic management providing strategic vision and leadership, particularly as fundraising activities are concerned.
Stimuli and support to pursue international funding and cooperation initiatives.	Short	Medium	The government and its agencies could intensify the promotion of international fundraising and cooperation.
3. Research and innovation			
Additional funding schemes	Medium	Medium	Add “core funds” (not funding specific projects but rewarding good performance) to be attributed on the basis of research productivity of departments and/or individual researchers on the basis of periodical re-assessments based on objective performance criteria.
4. Governance			
Strategic management capacity (1)	Short	Medium	Investments in capacity building in the areas of: data collection, management, sharing, analysis (including impact evaluation).
Strategic management capacity (2)	Medium	Medium	Definition of regulations allowing data exchange and outsourcing of data analysis requiring particularly high levels of expertise.
5. Internationalization			
Accessibility of information and ease of application for international students and/or scholars	Medium	Medium	Realization of a joint IT infrastructure for diffusion of relevant information – e.g. study and work opportunities – and centralized application platform.
6. Access and social inclusion			
Funding (1)	Short	Medium	Increased resources for the support to disadvantaged groups
Funding (2)	Short	Medium	Better targeting system, re-orientation of funds from “priority areas”
Funding (3)	Short	Medium	Provision of additional resources to pay stipends to promising disadvantaged students and to cover living costs for students coming from rural areas.
Policy-making	Short	Medium	Development of clear and detailed social inclusion policy for improving access and equity, with the definition of clear quantitative standards, targets, measures and tools, accompanied by the setup of a well-functioning monitoring and evaluation system.
Other policies (1)	Short	Medium	Elimination of dead ends in VET programs.
Other policies (2)	Short	Medium	Official and explicit introduction of flexible study programs and tuition payments for working-students.
Other policies (3)	Short	Medium	Explicit introduction of clear procedures for recognizing learning and experience gained inside and outside formal education and training.

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Appendix

A. Methodology (Kupets, 2016)

Table A1. Definition of skill levels

Skill Level 4	Senior Officials and managers Professionals
Skill Level 3	Technicians and associate professionals
Skill Level 2	Clerks Service Workers and Shop and market sales workers Skilled Agricultural and fishery workers Craft and related trade workers Plant and machine operators and assemblers
Skill Level 1	Elementary Occupations

Table A2. Aggregation by sector characteristics (manufacturing and non-manufacturing) on NACE Rev2

High Technology Industry	Manufacture of basic pharmaceutical products and pharmaceutical preparations; Manufacture of Computer. Electronic and optical product.
Medium	Manufacture of chemicals and chemical products; Manufacture of electrical equipment; Manufacture of machinery and equipment n.e.c. ; Manufacture of motor vehicles, trailers and semi-trailers; Manufacture of other transport Equipment
Medium-low-technology	Manufacture of coke and refined petroleum products; Manufacture of rubber and plastic products; Manufacture of other non-metallic mineral products; Manufacture of basic metals; Manufacture of fabricated metals products, excepts machinery and equipment; Repair and installation of machinery and equipment
Low-Technology	Manufacture of food products, beverages, tobacco products, textile, wearing apparel, leather and related products, wood and of products of wood, paper and paper products, printing and reproduction of recorded media; Agriculture and fishing; Manufacture of furniture; Other manufacturing;
Knowledge-intensive services	Water transport; Air transport Publishing activities; Motion picture, video and television programm production, sound recording and music publish activities; Programming and broadcasting activities; Telecommunications; computer programming, consultancy and related activities; Information service activities Financial and insurance activities Legal and accounting activities; Activities of head offices, management consultancy activities; Architectural and engineering activities, technical testing and analysis; Scientific research and development; Advertising and market research; Other professional, scientific and technical activities; Veterinary activities; Security and investigation activities Public administration and defence, compulsory social security; Education;

	Human health and social work activities; Arts, entertainment and recreation
Less-knowledge intensive activities	Wholesale and retail trade; Repair of motor vehicles and motorcycles; Land transport and transport via pipelines Warehousing and support activities for transportation; Postal and courier activities; Accommodation and food service activities; Real estate activities; Rental and leasing activities; Travel agency, tour operator reservation service and related activities; Services to buildings and landscape activities; Office administrative, office support and other business support activities; Activities of membership organization; Repair of computers and personal and household goods; Other personal service activities; Activities of households as employers of domestic personnel; Undifferentiated goods- and services-producing activities of private households for own use; Activities of extraterritorial organizations and bodies

B. Stakeholders contacted

Table B1. List of stakeholders

Stakeholder	Organization	Position
Higher Education Institutions		
Vakhtang Lejava	Free University	Rector of the Free University
Giga Zedania	Ilia State University	Rector of Ilia State University
Tinatini Chikovani	Tbilisi State Medical University	Dean of Medicine faculty
Giga Sordia	Tbilisi State Medical University	Head of Students and Alumni Relations Office
Giorgi Shervashidze	Tbilisi State University	Rector of Tbilisi State University
Irma Shioshvili	Telavi State University	Rector of Telavi State University
Agencies/Foundations		
Manana Mikaberidze	LEPL Shota Rustaveli National Science Foundation (SRNSF)	Director
Iwa Mindadze	National Assessment and Examinations Center (NAEC)	Deputy Director at NAEC
Maia Gelashvili	National Center for Education Quality Enhancement (EQE)	Head of Academic Programme Accreditation Division
Tamar Sanikidze	National Center for Education Quality Enhancement (EQE)	Head of the center
Ministry Of education		
Valerian Gobronidze	Ministry of Education and Science	Deputy Head of the Department of Higher Education and Science Development
Maia Shuxoshvili	Ministry of Education and Science	Head of Higher Education Development Division
Alexander Tevzadze	Ministry of Education and Science	Deputy Minister
Parliament of Georgia		
Mariam Jashi	Parliament of Georgia	Chairperson of the Education, Science and Culture Committee
Other Organizations		
Irina Kvakhadze	Business Association of Georgia	Deputy CEO
Mikhail Kordzaia	Georgian Employer's Association (GEA)	vice-president of Georgian Employer's Association
Online Surveys		
Lecturers at public and private universities		
Graduates of higher education institutions		
Students of higher education institutions		

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